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Annotated checklist of the birds of San Joaquin County, California

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ANNOTATED CHECKLIST OF THE BIRDS OF SAN JOAQUIN COUNTY, CALIFORNIA

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Master of Arts

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by
James Leroy Tate, Jr.
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Directors and curators of museums were contacted with regard to San Joaquin County specimen data and gave freely of their time. These men were: Dr. A. H. Miller, Dr. N. K. Johnson, Mr. Ed N. Harrison and Dr. Alan T. Orr. Dr. G. O. Gates, Dr. E. P. Edwards and Dr. G. W. Hughes, under whose direction this thesis was written spent many hours with the manuscript copy.

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INTRODUCTION

In 1879 Mr. Lyman Belding prepared a large series of specimens from Stockton for the United States National Museum. His field notes and the data from these birds were published in the Partial Checklist of the Birds of Central California. Other notes on the birds of Stockton were published in Land Birds of the Pacific District (1890) by Belding. Since that time there has been little active interest in birds in San Joaquin County.

Until about 1940 Mr. Walter B. Sampson and his helpers were the only other persons actively interested in birds in San Joaquin County. The first field checklist of the birds of San Joaquin County was prepared by Dr. J. R. Arnold and Miss Verna Johnston in 1947, subsequently revised and finally printed as the Stockton College Daily Field Checklist. No attempt at annotation was made at that time. In 1963 Miss Johnston and I revised the Stockton College list to bring nomenclature up to date and to add status and abundance information. From then until April 1964, the gathering of sight records and published information, examination of museum specimens, intensive field work, and organization of quantities of data were undertaken, resulting in the present paper.

This treatment is obviously not final. The arrival and departure dates of common species in many cases remain unknown. Some birds which might

honestly be expected to occur commonly have been actually recorded only a few times, and seasonal or nesting data are almost nonexistent for some. Abundance and status information on the 1963 checklist was less accurate than desirable in many cases and decidedly incorrect in others. The new influx of data has shown some mistakes clearly, but others surely remain.

The use of exact, categorical definitions for status and abundance may be open to criticisms, not the least of which is the broad generalization on topics so open to personal interpretation. Variation in local habitat can make a rare species common, at least locally. The abundance of one species may not be comparable in numbers to that of another species (a common owl and a common sparrow for example). All of this is subject to the experiences and impressions of the author or editor of a particular record. In this checklist the abundance of a species has been considered within the habitat as outlined and only as compared with birds in the same generic group.

Evaluation of many records is the only way valid judgements can be made on abundance and status. The necessity of obtaining exact dates, localities, numbers, and special weather conditions cannot be overemphasized. For this reason, records in supplement to this list are freely solicited.

The present checklist includes all species and subspecies for which specimens exist. In some instances sight records have been adequate reason for including a species on the list when no specimen

existed. Sight records for species which are difficult to identify have been admitted upon careful editing. The author has followed the policy outlined by Griscom (1922) with regard to acceptance of sight records. Answers are sought to six questions about the person reporting an unusual sighting.

1. Is he familiar with the birds of his area?
2. Is he aware of the importance of his observation?
3. Has he ever seen the species before?
4. Does he know the species with which it might be confused?
5. Does his account show that circumstances were good for a proper identification?
6. Did he recognize it at once, or look it up later from memory?

Species of introduced game birds which have not become established have not been included.

The nomenclature of the fifth edition of the American Ornithologists' Union Checklist (1957) has been strictly followed. The subspecies has been given for breeding birds on the basis of range alone only when the nest site occurred near the center of the range of the subspecies. The subspecies of wintering birds has been cited only if carefully identified specimens exist. Few of the birds in the collections of J. R. Arnold or the University of the Pacific have been identified to subspecies. All records for specimens from the United States National Museum have been transcribed from the Partial List of the Birds of Central California (Belding, 1879) but I have not examined the specimens. Specimens of eggs from the collection of W. B. Sampson

are presently changing hands, so bear no catalog number. They will ultimately become the property of the Western Foundation of Vertebrate Zoology, Los Angeles. When citing oological specimens, I have placed the number of eggs making up the set in parentheses following the collector's initials.

Habitat and distribution statements are drawn whenever possible from available San Joaquin County data and my own experience with the bird. In many cases this is less encompassing than published data elsewhere. I have usually cited specific localities of occurrence and supplemented this from general sources (Grinnell, 1915; Grinnell and Miller, 1944; Dawson, 1923; and Miller, 1951). Nesting statements derive from recorded data in San Joaquin County. Supplementary sources were not used in this case, so that the data included here are often incomplete, but accurate for the area.

DEFINITIONS.

Status.--The seasonal distribution of birds through the year with the establishment of specific natural temporal boundaries.

Permanent.--Residing at all seasons, but some migration may result in the increase or decrease in numbers or replacement of the population of a certain area. San Joaquin County Example - Robin.

Summer.--Breeding during the summer. Present before and after as a migrant. Rare or absent in the winter. San Joaquin County Example - Barn Swallow.

Winter.--Encountered between December and February. Also present during migration, but rare from June to August. San Joaquin County Example - White-crowned Sparrow.

Migrant.--Transient in the spring and fall. Rare or absent in summer and winter. San Joaquin County Example - Wilson's Warbler.

Abundance.--The numerical distribution of a species (in relative terms) when considered in its own habitat in relation to the abundance of other birds in the same order or family in their own habitats.

Very common.--Seen regularly and in such numbers that it is encountered even with casual observation. Includes large concentrations in preferred habitats. San Joaquin County Examples - House Finch, Pintail (winter).

Common.--Seen regularly, always to be found by looking for it in its preferred habitat. San Joaquin County Example - Rufous-sided Towhee.

Fairly common.--Seen often, not always found when searched for. Persistent effort will usually result in finding it. San Joaquin County Example - White-tailed Kite.

Uncommon.--Present in such small numbers (or in groups as occasional visitors) as to make its appearance uncertain. San Joaquin County Example - White Pelican.

Rare.--Present as a result of natural factors but so infrequently that its presence cannot be predicted except possibly as to season. San Joaquin County Example - Red Crossbill.

Accidental.--Present only as a result of accidental

causes or unexplained wandering. San Joaquin County Example - Trumpeter Swan.

ABBREVIATIONS.

Specimens

CAS.--California Academy of Sciences, San Francisco.

EAS Eggs.--Private collection of Emerson A. Stoner, 285 East L Street, Benicia.

JGT Eggs.--Private collection of John G. Tyler, data on deposit with Ed N. Harrison, Los Angeles.

JRA.--Private collection of John R. Arnold, Sonoma State College, Cotati.

MVZ.--Museum of Vertebrate Zoology, University of California, Berkeley.

MVZ Eggs.--See MVZ. A separately cataloged collection.

UOP.--University of the Pacific, Stockton.

WBS Eggs.--Private collection of Walter B. Sampson. Specimens presently in his home, 1005 N. San Joaquin Street, Stockton. Data on deposit with the Western Foundation of Vertebrate Zoology, Los Angeles.

Contributors of field observations

AAA.--Dr. A. A. Allen: field notes.

JRA.--Dr. John R. Arnold: field notes, personal communication, correspondence.

TB.--Miss Theodosia Benjamin: field notes, personal communication, correspondence.

VC.--Mrs. Virginia Campbell: field notes, personal communication.

GWC.--Mr. Gary W. Colliver: field notes, personal communication.

JD.--Mr. John Dawson: personal communication.

EPE.--Dr. Ernest P. Edwards: manuscript, field notes, personal communication.

AE.--Miss Amber Ellis: field notes with Verna Johnston.

WJG.--Mr. William J. Gritz: field notes, personal communication.

JG.--Mr. Jack Guggolz: field notes, personal communication.

EBH.--Mr. E. B. Hurlbert: correspondence.

RRJ.--Mr. Ralph R. Johnson: field notes, personal communication.

VRJ.--Miss Verna R. Johnston: manuscript, field notes, personal communication.

ML.--Mr. Mervin Learned: personal communication.

GMcC.--Mr. R. Guy McCaskie: correspondence.

REM.--Mr. Rolf E. Mall: personal communication.

ESM.--Mr. E. S. Morton: manuscript, field notes, personal communication.

DN.--Mr. Dante Nomellini: personal communication.

WP.--Dr. Warren Pulich: field notes, correspondence.

WBS.--Mr. Walter B. Sampson: field notes, personal communication.

JCS.--Mr. and Mrs. J. Carlton Shanks: field notes, personal communication.

EAS.--Emerson A. Stoner: correspondence.

DJT.--Mrs. D. Jean Tate: field notes, personal communication.

JLT.--author.

WT.--Dr. W. P. Taylor: field notes.

JGT.--Mr. John G. Tyler: field notes.

TU.--Mr. Tom Urle: personal communication.

THE CHECKLIST

Order PODICIPEDIFORMES

Family Podicipedidae

EARED GREBE-Podiceps caspicus californicus Heermann

Status.--Uncommon winter. Fairly common migrant.

Habitat and Distribution.--Most often encountered during migration, less frequently in the winter. A winter resident individual can usually be found in the same area for several successive days. The bird collected by Belding (1879:449) on 9 May 1878 near Stockton, was the only one he had seen in the valley during two years.

Found most commonly on the more open sloughs of the Delta area and the ponds of the foothill region. Its relative absence from the flooded fields is almost certainly related to the absence of fish.

Specimens.--USNM 74461 ♂ ad., Stockton, 9 May 1878; JRA 763 ♂, Stockton (8 mi. N), 14 October 1948; UOP 2 ♂, Stockton area, 27 April 1963.

WESTERN GREBE-Aechmophorus occidentalis (Lawrence)

Status.--Fairly common migrant. Uncommon winter.

Earliest Fall Date.--5 September 1962.

Habitat and Distribution.--From the time of late summer dispersal until late November, Western Grebes are often found on the larger sloughs and rivers of the Delta area. Recorded from: Stockton Channel, Venice Island, Potato Slough, Bishop Island, Hog Slough. Spring records are less common. One specimen (♂) was taken many years ago in June (Belding, 1879:449).

Nesting.--The Delta lands may have once supported a breeding population before this seemingly ideal habitat was "reclaimed". There are no breeding records.

Specimens.--USNM 74460 ♂ ad., Stockton, 3 June 1878; JRA 834 ♀ ad., Stockton, 5 October 1953; USNM 74203 ad., Stockton, 26? April 1878; USNM 76659 ad., Stockton, 3 October 1878; USNM 76658 ad., Stockton, 24 September 1878.

PIED-BILLED GREBE-Podilymbus podiceps podiceps (Linnaeus)

Status.--Common permanent.

Habitat and Distribution.--Decidedly more common in the winter than at any other season. It has been found in all parts of the county where permanent or temporary water occurs. Often encountered in the small drainage channels on the islands, and in vegetated sloughs.

Nesting.--Courtship begins as early as March, nest building starts by late April. Most egg dates are for early and mid-May, extending into late June.

Specimens.--WBS Eggs (6), Kettleman Swamp, 6 June 1947; SJDC 170 ♂ , Stockton (8 mi. NE), 15 March 1950; SJDC 114 ♀ , Stockton (7 1/2 mi. N), 17 October 1941; JRA 714 ♀ , Stockton (8 mi. N), 10 October 1941.

Order PELECANIFORMES

Family Pelecanidae

WHITE PELICAN-Pelecanus erythrorhynchos Gmelin

Status.--Uncommon permanent.

Habitat and Distribution.--This bird has been seen every month of the year, with a preponderance of records in the late winter (January through April).

A flock can be expected at any time, but never counted upon. The river and Delta area to the west and the clay-loam wetlands to the south of Stockton are the areas of most frequent sightings. Occasional sightings are made over cities or towns.

Nesting.--While the clay-loam wetlands at one time provided temporary lakes and ponds, it is doubtful if White Pelicans have ever bred within the county. The nearest recorded breeding colony was about three miles northeast of Sacramento in 1910 (Neale, 1916:161).

Specimens.--SJDC 18, Stockton (5 mi. E), 4 October 1946.

Family Phalacrocoracidae

DOUBLE-CRESTED CORMORANT-Phalacrocorax auritus albociliatus Ridgway

Status.--Rare permanent.

Habitat and Distribution.--While previously "abundant at all seasons, particularly where sloughs penetrated the oaks of the uplands" (Belding, 1879:447-48), this species has been recorded fewer than 20 times in the last twenty years. Belding (1879:447-48) found it very common in the spring of 1878. Modern records are from Forest Lake (WT), Disappointment Slough (JRA, JG, WPT, Fourteenmile Slough (JRA), Arno (JRA, WBS), Stockton Channel (JG) and other areas. More records might be expected from the newly built Comanche Reservoir.

Nesting.--Although Belding (1901:104) speculated on the possibility that it might have bred within the county, there are no definite records.

Specimens.--USNM 76656 ♀ ad., Stockton? (head only), 6 April 1878; USNM 76655 ♀ ad., Stockton, 22 March 1878.

Order CICONIIFORMES

Family Ardeidae

GREAT BLUE HERON-Ardea herodias hyperonca Oberholser

Status.--Common permanent.

Habitat and Distribution.--Greatly dispersed during the winter. May be confidently sought in the foothills and farmland areas at any season. It has seldom been recorded on the true peat lands of the Delta.

Nesting.--Several colonies have been recorded within the county, but some are subject to great year-to-year variation in numbers and in location. Within the area, nesting colonies have been recorded at Arno Marshes (JG, WBS, JRA), White Ranch (WBS), Caswell State Park (REM), Baldwin-Lang Ranch (JG, JRA), Garwood Bridge (1 mi. W)-(JG), Twin Cities (1 mi. W)-(JG), and Woodbridge (1/2 mi. NE)-(JG). The long-standing colony on the Baldwin-Lang Ranch north of Stockton carried about 150 pairs for many years (certainly 1941-48, probably 1935-48)-(JRA, JG, JGT, WBS).

The nest is a bulky aggregation of sticks arranged in a crotch of valley oak or willow. Often one tree will contain several nests. Mixed colonies of Great Blue Herons and Common Egrets are common, and it is not unusual to find a pair of Great Horned Owls or Red-tailed Hawks nesting in their midst. House Sparrows usually inhabit the nests of herons,

egrets, hawks and owls alike. Occasional nesting records were obtained over a period of eight years at the Baldwin-Lang Ranch (JRA, WBS, JG): 1 February, birds near colony; 25 March, many nests, few eggs; 29 March, most birds with eggs; 8 April, some young birds, most nests with eggs; 18 April, some young off the nest in limbs, most with eggs or small young.

Specimens.--WBS Eggs, 15 sets, Stockton and vicinity, 19 March 1933 to 2 April 1922 (1922-1940); JGT Eggs (4), Stockton (9 mi. NW), 24 March 1935.

GREEN HERON-Butorides virescens anthonyi (Mearns)

Status.--Fairly common permanent.

Habitat and Distribution.--Commonly seen about foothill ponds, rice fields, courses of small rivers, and sloughs in the Delta. It might be encountered anywhere there is water with shrubby vegetation along the shores. Clearing of willows and brush along stream banks to promote drainage has adversely affected this species.

Nesting.--Nesting dates include: one adult and two downy young in willows along the Calaveras River near the University of the Pacific, 3 June 1950; nest with fresh eggs, Manteca, 4 May 1930. Belding (1879:442) referred to it as "an abundant summer resident," and mentioned that "many build their nests in the willows by the San Joaquin River." He recorded three clutches of eggs (numbers in sets - 6, 4, 4).

Specimens.--JGT 533, Manteca, 4 May 1930; JRA 527 imm., Stockton, 16 August 1939; UOP 1 ♀, Stockton (7 mi. NW), 11 October 1963; USNM 74300 ♂ ad., Stockton, 15 April 1878.

COMMON EGRET-Casmerodius albus egretta (Gmelin)

Status.--Fairly common permanent.

Habitat and Distribution.--There appears to be a greater chance of finding this species from November to April than from May to September, which probably is related to their gathering into breeding colonies during the summer, lessening the opportunity for chance encounter. The species can be expected anywhere within the county. Small foothill ponds, rice fields, open drainage along streams and rivers, and Delta sloughs, are favorite localities. Temporary ponds often will have egrets on them.

Food often includes gophers and field mice, as revealed by stomach contents of some of the specimens (JRA).

Nesting.--Few breeding colonies are known: Baldwin-Lang Ranch, 10-20 pairs with Great Blue Herons (JRA, WBS, JG), at least 1941-1948; Caswell State Park, three-four pairs, 1961-1962 (TU); Littlejohns Creek west of Farmington, three-four, 1962 (TU).

The nest site is usually a large willow or oak crotch which the bird fills to overflowing with long angular branches. Nesting data include: eggs on 18, 20 April, 1941 (JRA); eggs on 24 April 1942 (JRA); eggs and young on 4 May 1962 (TU).

Specimens.--SJDC 14, Farmington (1 mi. N), 1 January 1949; JRA 737, north of Stockton, 26 January 1947; USNM 76641 ad., 24 September 1878.

SNOWY EGRET-Leucophoyx thula brewsteri (Thayer and Bangs)

Status.--Uncommon permanent.

Habitat and Distribution.--Most often encountered in the same habitat as, or in mixed groups with, Common Egrets. There is a preponderance of late winter

and spring records, although the species can be expected casually at any time of the year.

Nesting.--I have no modern nesting records. Belding (1879:442) found it to be "an abundant summer resident," and indicated that it bred near Stockton. Reduction of the tule lands has undoubtedly affected its feeding habitat.

Specimens.--USNM 76642 ad., Stockton, July 1877.

BLACK-CROWNED NIGHT HERON-Nycticorax nycticorax hoactli (Gmelin)

Status.--Common summer. Fairly common winter.

Habitat and Distribution.--Previously an abundant nesting bird in this area, it has been extensively reduced in numbers by drainage of the peat lands and clearing of streams. Frequently encountered early in the summer and late in fall on the waste islands and levees of the Delta. Less frequently found in the Sierra foothills and across the valley plain. Slightly less common in winter months, and then concentrated into flocks.

Nesting.--On 18 May 1963, six birds were found carrying sticks and probably nest building on a tule burm covered with small willows just south of Correia Ferry (JLT, RRJ). This is the only available San Joaquin County record and seems to be somewhat unusual.

Specimens.--SJDC 12 ♀ , Stockton (COP), 1 April 1948; JRA 551, Stockton, 2 December 1940; USNM 74302 ♂ ad., Stockton, 1 May 1878.

LEAST BITTERN-Ixobrychus exilis hesperis Dickey and van Rossem

Status.--Uncommon or rare summer. Rare winter.

Habitat and Distribution.--Seldom seen from a dry observation point, this species may well be more common than the few records indicate. The rice fields and marshy sloughs in the eastern and central part of the county are good areas. A single bird was flushed out of the shallow swamp on Bract Tract, 18 May 1963 (JLT). Three other sight records, two from Kettleman Place (JRA), and one from Farmington (TU), are all that have been reported recently. It has certainly been greatly affected by reduction of the tule habitat, and perhaps helped by increase in rice production.

Nesting.--Sampson mentioned finding their nests many years ago. There were no egg sets in his collection, however. Belding (1901:104) indicated that it bred near Stockton before 1901. He had two sight records, one of these was a juvenile bird taken from a Red-shouldered Hawk at Stockton (1879:443).

Specimens.--USNM 76644 ♀ juv., Stockton, 14 September 1878.

AMERICAN BITTERN-Botaurus lentiginosus (Rackett)

Status.--Common permanent.

Habitat and Distribution.--Before the peat lands were reclaimed, Belding (1879:442) found it "a very abundant resident." Now it is encountered anywhere in the county where there is water and vegetation. It frequently eats mice, grasshoppers and aquatic insect larva.

Nesting.--Nests are found between late April and June: 18 May, Kettleman, four eggs (in cattails)-(WBS); 11 May, 1 June, Kettleman, a nest with four eggs each date (WBS); 15 June, Thornton Road, two adults, one young unable to fly (JRA, JG).

Specimens.--SJDC 73, Stockton, 6 October 1941; JRA 734, near Stockton, 13 December 1946; WBS Eggs (4), Kettleman Swamp, 18 May 1947; WBS Eggs (4), Kettleman Swamp, 11 May 1947; WBS Eggs (4), Kettleman Swamp, 1 June --; WBS Eggs (3), Stockton (9 mi. NW), 2 June 1933; USNM 76643 ♂ ad., Stockton, 13 April 1878.

Family Threskiornithidae

WHITE-FACED IBIS-Plegadis chihi (Vieillot)

Status.--Rare migrant. Previously common.

Four spring dates: 5-7 May 1878 (Belding, 1905:112), 5 June 1960 (JRA), 9 June 1878 (Belding, 1879:443), June 1952 (TU). Two fall dates: September 1944 (TU), 18 September 1878 (Belding, 1879:443).

Habitat and Distribution.--In most cases a small group has been seen. The habitat has been variously reported as an open area in marshy ponds or sloughs, temporary ponds (clay-loam wetlands area) and flooded rice fields. A large concentration of 4-6000 birds was reported by Belding (1905:112) in northward migration.

Nesting.--Belding (1901:104) felt that they might have bred near Stockton at one time.

Order ANSERIFORMES

Family Anatidae

Subfamily Cygninae

WHISTLING SWAN-Olor columbianus (Ord)

Status.--Very common winter.

Earliest Fall Date.--17 October 1963.

Latest Spring Date.--4 April 1948. Also 27 April 1964, (This individual showed signs of being a sick or injured bird.)

Habitat and Distribution.--Ponds in the foothills, and the valley as well as temporarily flooded or

irrigated areas may well hold numbers of swan each winter, but the greatest concentrations of this species occur on the flooded fields of the Delta. Even to someone aware of the numbers present, the sight of a flock of one thousand or more immense white swans is very impressive. Often during fall migration the morning fog rises, revealing a small flock standing on a bare plowed field or heavily grazed pasture, probably having been forced down by sheer exhaustion. As the season progresses, Delta landowners begin to flood their fields to remove the alkalinity that accumulates there during each years' irrigation. Winter resident flocks are frequently seen here, mixing freely with the abundant myriad of ducks and geese. Swans are almost never seen on the sloughs, unless injured or sick. Standing on levee roads, I have seen hundreds of swans in every direction across some Delta islands. As the water on a given set of fields is allowed to recede and another set is flooded, the waterfowl move, leaving behind a remarkable toll of sick, dying and dead individuals. Due to their dependence upon ponds of temporary water, concentrations of birds may not occur on the same fields each year. Some areas which are often populated in mid-winter are: along Highway 4 - Roberts Island, Victoria Island, Union Island; on Atherton Road - southwest Bishop Tract, Empire Tract, King Island; along Highway 12 - Terminous Tract west of Thornton Road, Bouldin Island; other areas - Staten Island and Bract Tract, as well as numerous other localities. Throughout the foggy days and nights of winter, the calling of swans and geese can be heard very

frequently about the towns and cities near the Delta.

Specimens.--JRA 750 ♀ , Stockton (Fourteenmile Slough), 25 January 1948; UOP 3 ♂ , Woodbridge (7 mi. W), 23 January 1963.

TRUMPETER SWAN-Olor buccinator Richardson

Status.--Accidental.

Apparently of occasional winter occurrence until the area was settled by white man (Banko, 1960:16-17). Belding reportedly identified three individuals in the markets of Stockton previous to 1890 (Grinnell and Miller, 1944:66). The rarity of this species throughout its former range is common knowledge. One bird was identified by voice by E. S. Morton and me, 21 January 1963, while it was in flight with two Whistling Swans (Condor, 1963:530). Morton and I were on opposite sides of the receding water in a flooded field when the group flew first over me, circled the water, and flew over him. Both the Trumpeter Swan and accompanying Whistling Swans called repeatedly so that the contrast in voice was quite apparent. Such records may be expected again, perhaps from the resident population established at Malheur Wildlife Refuge on the Oregon border. I have received many sight records of color-marked Whistling Swans from Malheur Refuge and have recovered several bands from Malheur Refuge birds which winter here. It is quite conceivable that a Trumpeter Swan might join a group of migrant Whistling Swans and find its way to central California.

Subfamily Anserinae

CANADA GOOSE-Branta canadensis (Linnaeus)

Status.--Very common winter. Abundant on the Delta.

Earliest Fall Date.--1 September 1948 (common by late September).

Latest Spring Date.--25 April 1947 (few remain by 10 March).

Two subspecies, B. c. minima and B. c. leucopareia are certainly very common winter residents. At present identified specimens are available of the former only. Hunters usually recognize the "Honker," the "Lesser," and the "Cackling" Canada Goose. To this extent I can agree, having seen and heard each of these "types."

Habitat and Distribution.--The Delta fields, and open water wherever it may occur provide loafing and feeding habitat. Grazing flocks are often seen walking in alfalfa or late grain fields (commonly in rice), where the damage to crops is sometimes considerable. Management of crops by harvesting before the geese arrive seems to be the best solution. A landowner on Empire Tract reported a small mixed flock of Canada and White-fronted Geese seen repeatedly during the summer of 1962. These were probably individuals in poor condition.

Specimens.--UOP 6 ♀ , Woodbridge (10 mi. W), 11 January 1963; UOP 7 ♀ , Woodbridge (10 mi. W), 11 January 1963; USNM 76648 ad., Stockton?, ----.

WHITE-FRONTED GOOSE-Anser albifrons frontalis Baird

Status.--Very common winter.

Earliest Fall Date.--7 September 1878 (Belding, 1879:445).

Latest Spring Date.--21 April 1964.

Not seen in numbers until late September. Most leave by mid-March.

Habitat and Distribution.--There seems to exist very little difference in winter habitat between the Canada Geese and the White-fronted Geese. The latter are certainly the more common. Decrepit individuals may sometimes spend the summer in the valley (see Canada Goose).

Specimens.--SJDC 6 ♂, Stockton, 19 March 1954; SJDC 185 ♂, Stockton, 12 March 1950; UOP 4, Woodbridge Road, 29 February 1964; UOP 5, Woodbridge (10 mi. W), 11 January 1963.

SNOW GOOSE-Chen hyperborea hyperborea (Pallas)

Status.--Very common winter.

Probably about as common as the Canada Geese. Arrives later and leaves earlier than the other geese.

Habitat and Distribution.--Abundant on the Delta, and present throughout the valley and foothills as the presence of water and pasture dictates. Not unlike the other geese in habits. The sighting of one or two Snow Geese flying with a group of Whistling Swans provides an interesting contrast in size and plumage. I have yet to be convinced that any sincere hunter could be so mistaken as to shoot a swan for a white goose, yet many wounded swans are found each winter.

Specimens.--USNM 76654 juv., Stockton, 18 October 1878; UOP 8 ♂, Stockton (Venice Island), 27 October 1962.

BLUE GOOSE-Chen caerulescens (Linnaeus)

Status.--Rare winter.

Belding (Zoe, 1892:97) encountered two birds of this color phase in the Stockton market on about 1 February 1892. Parts of one of these were saved and submitted to Ridgway for identification (Fisher, 1918:56).

Grinnell (Grinnell and Miller, 1944:72) confirmed the identification of these parts on 31 October 1929. Two recent sight records indicate its occasional presence. An employee of the Department of Fish and Game told me of encountering three Blue Geese in a rice field on Live Oak Road near Bear Creek during the winter of 1953. A single bird was found on 30 November 1962 with a flock of about 25 Snow Geese (JLT). The dark shoulders and back contrasted sharply with the all white backs of the Snow Geese.

Specimens.--USNM 125206, near Stockton, about 1 February 1892, wings and head only.

ROSS' GOOSE-Chen rossii (Cassin)

Status.--Fairly common winter.

Identification in the field is difficult if not impossible. Size is not dependable and behavior is a less than satisfactory means. I have seen many Ross' Geese in hunters bags, however, and judging from the numbers there in relation to Snow Geese I would say they are encountered in the county with regularity.

Habitat and Distribution.--In the same situations as and frequently mixed in with flocks of Snow Geese. Close inspection is necessary to distinguish them. The zig-zag flight and general nervousness of the Ross' Goose can sometimes be noticed, but are hardly usable field characters. Even when fully protected, numbers of them appeared in hunters bags. Measurements of one Snow Goose and two Ross' Geese taken on Venice Island follow.

	length (cm)	tail (cm)	culmen (cm)	spread (cm)
C. rossii, Dec. 1964	50.2	15.2	3.9	127
C. rossii, 11 Jan. 1964	63.0	15.0	4.2	130
C. hyperborea, Dec. 1964	50.2	12.7	3.7	127

Specimens.--USNM 77163, Stockton market, December 1878.

Subfamily Dendrocygninae

FULVOUS TREE DUCK-Dendrocygna bicolor helva Wetmore and Peters

Status.--Rare.

Belding (1879:445) recorded having seen one in the market at Stockton sometime prior to 1878. A large number were recorded 5-7 May 1879 (Belding, 1905:112). He later speculated that it might have bred near Stockton at one time (1904:104).

Subfamily Anatinae

MALLARD-Anas platyrhynchos platyrhynchos Linnaeus

Status.--Very common winter. Common summer.

Habitat and Distribution.--Throughout the winter may be encountered wherever water is found. Prefers shallow ponds and flooded fields. During nesting season found in irrigated fields and pastures; especially rice, alfalfa, clover, and potatoes. Quiet sloughs and ponds are frequented.

Nesting.--Many nests have been found in the general vicinity of water, amid dense protective ground cover. Birds are encountered feeding and flying in pairs in early January. Nest sites are chosen in some cases by late March, the first nests being found in early April. By the second week in April, they are encountered frequently as nesting

birds. Most broods are off the nest by mid-June, with some renesting occurring. The nest is usually a down-filled pocket in dense ground vegetation.

Specimens.--SJDC 141 ♂, Stockton (20 mi. NE), 15 March 1950; JRA 550, Stockton, 19 November 1940; JRA 813 ♀ imm., Lodi, 19 May 1950.

GADWALL-Anas strepera Linnaeus

Status.--Fairly common winter.

Habitat and Distribution.--This bird is not casually observed, but a specific search among large flocks of wintering ducks will often reveal it. Found in quiet vegetated sloughs, rivers and ponds in preference to open flooded fields. It probably remains through the summer and nests in small numbers, but there are no specific data available. Belding (1879:446) referred to it as a "common constant resident." He noted that it was most frequently found in the tule swamps, both in summer and in winter. There is no doubt that reduction of the tules has adversely affected this species.

PINTAIL-Anas acuta Linnaeus

Status.--Very common (abundant) winter. Uncommon summer.

Habitat and Distribution.--Widely distributed across the valley in the presence of water or grain fields. Impressive concentrations are sometimes found which number easily into thousands of birds. Abundant on flooded Delta lands and irrigated fields. Some decrepit individuals remain over the summer as well as a few nesting birds.

Nesting.--One modern record: Lang Ranch, 26 March 1933, nine eggs in pasture near marsh (JG). Belding (1879:446)

observed a male and female on 28 May 1878 at Stockton.

Specimens.--SJDC 6 ♀, Stockton (5 mi. W), 9 January 1949; SJDC 4 ♂, Stockton (2 mi. W), 2/1/41; SJDC 152 ♀, Stockton (5 mi. W), 14 September 1949; UOP 14 , Stockton (Venice Island), 20 October 1962; UOP 15 ♂, Venice Island, 6 December 1962; UOP 221, Bract Tract, 23 February 1964; UOP 73 ♀, Bract Tract, 23 February 1964.

GREEN-WINGED TEAL-Anas carolinensis Gmelin

Status.--Common winter.

A few summer records, probably of decrepit birds. Normally early October to late March.

Habitat and Distribution.--Frequently seen in the flooded and irrigated fields of the valley. Small foothill ponds, spring overflow and temporary ponds will often hold large numbers during migration. Birds seen late in the winter often feed and loaf about in pairs.

Specimens.--UOP 19 ♂, Victoria Island, 12 February 1964; UOP 20 ♀, Venice Island, 8 December 1963; UOP 21 ♂, Venice Island, 6 December 1962; UOP 22 ♂, Victoria Island, 12 February 1964.

BLUE-WINGED TEAL-Anas discors discors Linnaeus

Status.--Uncommon or rare winter and migrant.

There are no specimens from San Joaquin County, and only sight records which include male birds are acceptable. Two birds (one male) were seen on a foothill pond, 4 May 1963 (ESM). Also a male and female were recorded on Kettleman Place, 12 April 1940 (JRA, JG). Other sightings which are probably attributable to this species are 18 January 1942, Kettleman; 22 February 1941, north of Stockton (JRA).

Many hunters' kills of female birds have been claimed to be Blue-winged, but in my experience close inspection has always proven otherwise.

CINNAMON TEAL-Anas cyanoptera septentrionalium Snyder and Lumsden

Status.--Common permanent.

Habitat and Distribution.--In winter freely dispersed wherever there is water. Occurs frequently in mixed flocks with other puddle ducks. In summer less numerous and more restricted to quiet backwater sloughs, freshwater ponds, upper courses of the east-west rivers and irrigated farmlands.

Nesting.--Nests may be found in a variety of habitats from semi-floating situations along levees of rice fields to moist densely vegetated ground cover some distance from water. Nest usually of broken down tules or weeds with some pieces added, lined with an ample layer of down. Eggs usually ten. Arno Marshes (JRA, JG), rice fields near Farmington (TU), irrigated land south of Eight Mile Road (JG) and east of Thornton Road (JLT) are recorded nesting areas, although nesting is generally distributed across the valley.

Specimens.--JRA 766 ♂, Stockton (14 mi. ?), 29 December 1948; USNM 74204 ♂ ad., Stockton, 13 April 1878; USNM 74205 ♂ ad., Stockton, 8 April 1878; USNM 74206 ♀ ad., Stockton, 8 April 1878; UOP 18 ♂, Venice Island, 8 December 1963.

AMERICAN WIDGEON-Mareca americana (Gmelin)

Status.--Common winter. Late spring migrant.

Habitat and Distribution.--Habitat similar to that of Shoveler and Cinnamon Teal. Prefers quiet

foothill ponds, flooded or irrigated land, and backwater sloughs. Found commonly on flooded Delta land. One of the latest migrant ducks to leave. The few records of summer birds may well be cripples unable to return to the nesting grounds. Pairs are noted after early January until the birds leave. Belding (1879:446) found this species to be abundant in 1878.

Specimens.--SJDC 5 ♀, Stockton (COP), 28 October 1948; UOP 12 ♂, Venice Island, 20 October 1962; UOP 13 ♀, Venice Island, 17 November 1962.

SHOVELER-Spatula clypeata (Linnaeus)

Status.--Common winter. Rare summer.

Habitat and Distribution.--In winter found frequently in the shallow flooded Delta fields. Frequents foothill ponds, irrigated fields and spring overflow. Prefers quiet shallow water.

Nesting.--Belding (1879:446) did not record it as a breeding bird, although he mentioned that it remained late into the spring. Probably very few breed here at present. The only nest record is a set of seven eggs taken by R. S. Wheeler in the tules west of Stockton, 4 May 1895.

Specimens.--SJDC 10 ♂, Stockton (River Drive), 17 December 1948; MVZ Eggs 7504 (7), Stockton, 4 May 1895; JRA 767 ♂, Stockton (14 mi. ?), 29 December1948; UOP 17 ♂, Venice Island, 8 December 1963; UOP 77 ♀, Venice Island, 18 December 1963.

WOOD DUCK-Aix sponsa (Linnaeus)

Status.--Common winter. Fairly common summer.

Habitat and Distribution.--Winter flocks of several hundred individuals sometimes seen on flooded

fields or large backwater sloughs. More commonly seen, but in smaller numbers, on wooded ponds and sloughs of the Delta, wooded stream channels of the east-west rivers, or foothill ponds and reservoirs.

Nesting.--Definitely recorded from several places in the county: Forest Lake (Sampson, 1901b:95); French Camp Slough (ML); Empire Tract (Hayes' Pond)-(JLT); Venice Island (North Pond and Work Camp Pond)-(DN); Littlejohns Creek (prior to clearing) and Tom Paine Slough (WBS). The Stanislaus, Mokelumne and Calaveras Rivers all provide stretches of suitable habitat. The nest is usually a down-lined cavity in a valley oak or large willow (also artificial nest boxes) located 10 feet or more above the ground. Ten eggs are the usual clutch. The first eggs are found by mid-April. Nests with eggs can be found until late in June. Young birds are often seen in early June.

Specimens.--JGT Eggs (11), Stockton (17 mi. S), 29 April 1900; JRA 795 ♀ , Stockton (5 mi. N), 15 November 1949; JRA 830 ♂ , Lodi, 2 December 1951; CAS 62588, Vernalis (2 mi. NE), 22 November 1960; CAS 62589, Vernalis (2 mi. NE), 22 November 1960; UOP 16 ♀ , Stockton (Venice Island), 17 October 1962; WBS Eggs (9), Stockton (15 mi. SW), 10 May 1924.

Subfamily Aythyinae

REDHEAD-Aythya americana (Eyton)

Status.--Uncommon to rare permanent.

Habitat and Distribution.--Prefers extensive areas of water with protective vegetation about margins. Some of the larger sloughs on the Delta, ponds and foothill reservoirs, and occasionally flooded fields provide habitat in this area. Has

been recorded in winter from Little Potato Slough (JLT), Arno Marshes (JRA, VRJ), Lodi (JRA), Davis Lake (JLT), and Forest Lake (WBS).

Nesting.--Summer records are few, Arno Marshes being the only locality (JRA, VRJ). Young birds were raised there in 1947: 11 May, three pair; 6 June, three pair; 10 June, pair with eight young. Also on 7 May 1950, two pair observed at the same locality.

RING-NECKED DUCK-Aythya collaris (Donovan)

Status.--Uncommon winter.

Few records: 7 mi. northwest of Stockton, 14 December 1941; Lodi, 17 and 28 November 1947; Fourteenmile Slough, 2 and 25 January 1948; Venice Island (specimen). Can be expected casually on larger sloughs and open ponds during mid-winter.

Specimens.--UOP 265 ♂ , Stockton (Venice Island), 8 December 1963.

CANVASBACK-Aythya valisineria (Wilson)

Status.--Fairly common winter.

Habitat and Distribution.--Seen regularly on flooded Delta fields and larger bodies of spring floodwaters. Not often found on wooded ponds of Delta or valley, but occasionally in more open water of foothills. The South Oxidation Pond has provided several records, and the Northside Pond can be expected to do the same. The new Comanche Reservoir can be expected to provide wintering habitat for several of the diving ducks. This species seems to be coming back in numbers due to the protection afforded it. Even so, I have encountered more than a few dead ones which had been shot.

Specimens.--UOP 10 ♀ , Venice Island, 1 December 1963; UOP 11 ♀ , Venice Island, 23 October 1963; UOP 76 ♂ , Venice Island, 1 December 1963.

GREATER SCAUP-Aythya marila nearctica Stejneger

Status.--Rare winter.

A single specimen was taken near Stockton in April 1878 by Belding (1879:446) and has been often cited as one of the few inland records of this species for California. I have seen no more than ten Scaup in the hand, one of which was a Greater. The bird was in the temporary posession of Johnny Dawson, a taxidermist north of Lodi, to be mounted for E. Merlo who had gotten it out of a hunter's bag on Bract Tract during the winter of 1963-64. I suspect that more careful observation would show the Greater to be more common inland than sometimes stated. Its habitat is like that of the Lesser Scaup except that it prefers deeper and more open water.

Specimens.--USNM 76652 ♂ , Stockton, 1 April 1878.

LESSER SCAUP-Aythya affinis (Eyton)

Status.--Uncommon winter.

Habitat and Distribution.--Scaups appear occasionally in hunter's bags at the Delta gun clubs and are seen on open ponds and small reservoirs of the Sierran foothills. The inherent difficulty in identifying these birds has reduced the number of valid sight records for either species. The Lesser undoubtedly makes up most of our winter records for scaup.

COMMON GOLDENEYE-Bucephala clangula americana (Bonaparte)

Status.--Rare winter.

Belding (1879:447) found two in the Stockton market, 5 February 1879. One mounted specimen stands

in the Venice Island Farms Clubhouse. It was shot during the winter of 1958-59 by D. Nomellini on Venice Island. Johnny Dawson has prepared several from this area, but could give no further data. I have no recent sight records, but would suspect from the above that it might be encountered in mid-winter, especially on the larger sloughs or other open water of the Delta.

Specimens.--USNM 77165 ♀ , Stockton market, 5 February 1879.

BUFFLEHEAD-Bucephala albeola (Linnaeus)

Status.--Uncommon winter.

Few records: Northside Oxidation Pond, 20 March 1964 (JLT, DJT); Thornton, 1 February 1942 (JRA, JGT); Kettleman Place, 9 and 22 February 1947 (JRA). Prefers more open water of larger freshwater ponds and reservoirs.

Subfamily Oxyurinae

RUDDY DUCK-Oxyura jamaicensis rubida (Wilson)

Status.--Very common winter. Fairly common summer.

Habitat and Distribution.--Appearing early and throughout the winter, large flocks can be found loafing and feeding on open water throughout the county. After migration in the spring, throughout the summer, and before the fall birds come in, the resident individuals are more difficult to find. At these times the Ruddy Duck retires to slow moving vegetated sloughs and swamps where its presence is revealed only by careful inspection.

Nesting.--Although summer sight records are common, I have no nesting data.

Specimens.--SJDC 8 ♂ , Stockton (River Drive), 11 December 1948; SJDC 7 ♀ , San Joaquin (?), no date; JRA 886, Stockton, 2 January 1961; USNM 76653 ♀ , Stockton, 11 October 1878, parts only; UOP 75 ♀ , Empire

Tract, 8 February 1964.

Subfamily Merginae

COMMON MERGANSER-Mergus merganser americanus Cassin

Status.--Uncommon winter.

Habitat and Distribution.--Found about some of the cleaner, more vegetated sloughs of the Delta, freshwater ponds and reservoirs. Records exist for Sycamore Slough (JLT, DJT, GWC), Davis Lake (JLT), "Terminous Area" (JRA, JGT), Forest Lake (WT), and Lodi Lake (TU), all from mid-winter. Hunters tell me of seeing them frequently (?), but few are shot bacause of their unsavory taste.

RED-BREASTED MERGANSER-Mergus serrator serrator Linnaeus

Status.--Rare winter.

Habitat and Distribution.--Larger sloughs and reservoirs across the valley and into the foothills. They might be found wherever there is deeper water, at least for a temporary stopover. Records exist for the "Mokelumne River" (JRA, JG), "Thornton-Woodbridge" (JRA, JGT), and San Joaquin City (JRA, JG).

Order FALCONIFORMES

Family Cathartidae

TURKEY VULTURE-Cathartes aura teter Friedmann

Status.--Very common summer. Common winter.

Habitat and Distribution.--Seen commonly at all months in all areas of the county. Several hundred sight records, when broken down into months show a slight decrease in numbers in the winter. The abundance of dead waterfowl at this season would seem to be to their advantage. I suspect that the still air and winter fogs make the area slightly unsuitable,

however.

In late summer large concentrations are found using the same roosting area for several days or weeks. One such concentration of from 12 to 32 birds was seen at Caswell State Park during 1962 and 1963. Dense unmolested riverbottom woodlands seem to be preferred, probably because molting occurs at this time. During spring and fall migration, very large flocks (up to 200 birds) have been seen traveling together.

Nesting.--Nesting occurs in hollow trees and logs or on the ground in the valley, also in caves and on ledges in the lava tablelands, and along the coast range foothills. Black Butte in Corral Hollow is a favorite site. A typical ground nest with two downy young was found in a poison oak and raspberry tangle on the McCauley Estate, 27 May 1939 (JG). Eggs are laid in April, hatching occurs in late April or May.

Specimens.--WBS Eggs (2), Stockton (8 mi. S), 16 April 1899; WBS Eggs (2), Stockton (9 mi. NW), 11 April 1926; WBS Eggs (2), Stockton (9 mi. NW), 13 May 1924; WBS Eggs (2), Stockton (9 mi. NW), 18 April 1924; WBS Eggs (2), Stockton (8 mi. NW), 12 April 1925; MVZ Eggs 7530 (2), north San Joaquin County, 15 April 1900; MVZ Eggs 7531 (2), Kettleman's near Lodi, 31 March 1901.

Family Accipitridae

Subfamily Elaninae

WHITE-TAILED KITE-Elanus leucurus majusculus Bangs and Penard

Status.--Fairly common permanent.

Habitat and Distribution.--Formerly much more abundant. Most often found in the Delta, roosting and nesting on the waste islands, feeding over the fields and pastures. Less often it is found along moderately vegetated watercourses (Stanislaus River near Ripon (JLT, DJT, WJG), French Camp Slough near the County Hospital (JLT, ML)), or in orchards from which it goes out to feed over nearby fields. Two records for the foothill area northeast of Clements are unusual (TU). Winter concentrations of four to 20 or more birds are sometimes found unexpectedly. Belding (1879:435) was apparently speaking of such a group: ". . . I have seen as many as twenty at the same moment within a circle of a half a mile. . . ." His experience was that they were rarely seen away from the tules, while in modern time, records away from that restricted habitat are common.

Nesting.--My notes indicate at least three nests on the Delta in 1963, probably there were more: Correia Ferry, 15 February, male and female building nest - 17 February, courtship feeding and copulation; Haye's Pond, 12 April, bird sitting on nest; Venice Island North Pond, 20 April, two birds showing concern over a nest in a tall willow.

Specimens.--WBS Eggs (5), Stockton (White Slough), 30 April 1914; WBS Eggs (5), mouth of Calaveras River, 1 April 1914; CAS Eggs (2), Stockton, 1 May 1904; USNM 73841, Stockton, - March 1878; USNM 73842, Stockton, - November 1877; USNM 74293 ♀, Stockton, 17 April 1877; USNM 74294 ♀, Stockton, 20 April 1877; USNM 74295 ♀, Stockton, 14 April 1877.

Subfamily Accipitrinae

GOSHAWK-Accipiter gentilis atricapillus (Wilson)

Status.--Accidental.

A single record for this Canadian Zone species is a dead bird found on Woodbridge Road, 10 February 1946 (VRJ, AE). No specimen was prepared from it.

SHARP-SHINNED HAWK-Accipiter striatus velox (Wilson)

Status.--Fairly common winter.

Earliest Fall Date.--24 September 1878 (Belding, 1879:436).

Latest Spring Date.--25 March 1948.

Habitat and Distribution.--Frequently found along riparian woodlands both in the valley and up into the foothills on both sides. Occasionally encountered in the brush along the levees on the Delta. At Haye's Pond and the Venice Island ponds I have frequently seen this species in the tall willow trees. Although this county is near the southern margin of its breeding range, there are no elevations within the county extending into its normal Transition Zone breeding habitat.

Specimens.--USNM 76623 ♂ juv., Stockton, 24 September 1878; MVZ 56350 ♀ , Stockton, 29 November 1908; JRA 516 ♂, north Stockton, 5 December 1938; UOP 32 ♂, Empire Tract, 27 February 1963.

COOPER'S HAWK-Accipiter cooperii (Bonaparte)

Status.--Fairly common permanent.

Habitat and Distribution.--The Cooper's Hawk seems to be less common in winter than the Sharp-shinned Hawk. The habitat is quite the same for these two fine predators, either being found

among trees or shrubs where there is an abundance of sparrows. Belding's impression was that Cooper's was "rare in the interior of California" (1879:435).

Nesting.--Eggs are usually laid in April, sometimes in an old Yellow-billed Magpie or Scrub Jay nest with a few sticks added (WBS). Hatching occurs in early May. The nest site is defended vigorously (JRA, VRJ).

Specimens.--WBS Eggs (5), Stockton (22 mi. E), 15 May 1932; WBS Eggs (5), Stockton (25 mi. NE), 29 April 1934; WBS Eggs (5), Stockton (2 mi. N), 12 April 1931.

Subfamily Buteoninae

RED-TAILED HAWK-Buteo jamaicensis calurus (Cassin)

Status.--Common permanent.

Habitat and Distribution.--Thoroughly ubiquitous. Seen commonly nearly everywhere about the county. Prefers to perch at the edge of a grove of trees or among scattered trees when not soaring. The practice of killing buteos and hanging their bodies on fences as testimony is still widespread in this area. Occasional "pest hunts" are still conducted by local sportsmen during which the Red-tailed Hawk suffers greatly.

Nesting.--Eggs are laid in late March, and April. Young hatch by late April, early May. Sets usually consist of two or three eggs, although four is fairly common. Nesting usually occurs in valley oak, about 30 to 50 feet off the ground in the outer crown. Eucalyptus and occasionally willow are also nest trees.

Specimens.--SJDC 15, Stockton, 16 January 1941; JRA 520 ♀ , Lodi, 28 January 1939; JRA 721, Holt,

24 March 1948; CAS 61991 ♀ , Corral Hollow, 13 January 1957; CAS 62587 ♀ , Vernalis (1 mi. E), 16 December 1958; USNM 76626 ♂ juv., Stockton, 29 October 1878; USNM 76627 ♀ , Stockton, 25 October 1878; WBS Eggs, 18 sets from various localities in San Joaquin County, 1922 to 1947; UOP 33 ♀ , San Joaquin County, 11 March 1963; UOP 222, Thornton and Peltier Roads, 1963.

RED-SHOULDERED HAWK-Buteo lineatus elegans Cassin

Status.--Fairly common permanent.

Habitat and Distribution.--Unless wooded streams are searched carefully, this bird may seem quite uncommon. It can usually be found along some of the heavily wooded streams and drainage ditches, around wooded ponds (as on Empire and Venice Islands), and in Caswell State Park. On a canoe trip from Riverbank to Ripon on 22 February 1964, two pairs were seen (JLT, DJT, WJG). The bird has often been seen in the wooded valleys of Corral Hollow and Hospital Canyon. Belding found it "very common" in the summer (1879:436). He also noticed a decline in numbers after October 15th. Recent records seem to support this.

Nesting.--A nest was found 40 feet above the water in a cottonwood next to the marsh on the Lang Ranch, 25 March 1948 (JRA). A bird was on the nest. One set of three fresh eggs was taken on 18 March 1928 near the San Joaquin River (WBS).

Specimens.--JRA 764, Manteca, 1948 (?); WBS Eggs (3), Moreing Ranch, 18 March 1928; USNM 74297 ♂ , Stockton, 1 May 1878.

SWAINSON'S HAWK-Buteo swainsoni Bonaparte

Status.--Fairly common summer.

Earliest Spring Date.--24 March 1948.

Latest Fall Date.--24 October 1963.

Habitat and Distribution.--Prefers open fields and flat plains of the valley. During nesting season it has been found in riparian woods or oak groves bordering open areas. Most records are for north of Stockton, Lodi, Caswell State Park, and the Delta.

A female Swainson's Hawk found dead hanging on a fence had its stomach full of Jerusalem crickets (Stenopalmatus sp)-(JRA).

Nesting.--Prefers oaks, large sycamores. Eggs are laid in late March, early April. The nest is a mass of twigs lined with leaves and moss.

Specimens.--WBS Eggs (4), Stockton (8 mi. NW, McDade), 26 April 1926; WBS Eggs (3), Union Island, 29 March 1896.

ROUGH-LEGGED HAWK-Buteo lagopus s.johannis (Gmelin)

Status.--Rare winter.

Habitat and Distribution.--Belding saw only three of these birds from 1875 to 1878 in the Stockton area (1879:436). His information includes a record on 1 April 1878. Presently I find the bird restricted to winter months, but there are very few records. Adults have been seen near Thornton (GMcC). A dead bird brought in to Arnold while still fresh was identified as this species but no skin was made (12 January 1947). Presumably it came from this area.

Specimens.--USNM 76628 juv., Stockton, 23 November 1878.

FERRUGINOUS HAWK-Buteo regalis (Gray)

Status.--Rare fall and winter.

Earliest Fall Date.--20 July 1940.

Habitat and Distribution.--Very infrequently encountered. It may be expected anywhere, usually sitting upon the ground or a low prominence. Sometimes confused with and probably less abundant than the Rough-legged Hawk.

Specimens.--MVZ 81217 ♂, Walnut Grove (8 mi. E), 28 November 1929.

GOLDEN EAGLE-Aquila chrysaetos canadensis (Linnaeus)

Status.--Uncommon permanent.

Habitat and Distribution.--Now seen most frequently in the coast range and Sierra foothills. Rarely anywhere in the valley since 1900. Records for the valley include: Kettleman Place (February 1940, April 1942)-(JRA); north of Stockton (May 1946, April 1940, October 1941, March 1901-breeding)-(JRA, JG, WBS); Stockton (14 May 1879-Belding, 1879:437); south of Stockton (22 April 1897-breeding). Most recent records come from the area between Farmington and Wallace and from the Corral Hollow and Hospital Canyon area.

Nesting.--Two nest records from the Sampson collection; 12 miles northeast of Stockton, 30 feet up in the crotch of a valley oak; and 12.5 miles southeast of Stockton, 60 feet up in an oak. Green branches and leaves were found in the nests. I suspect strongly that they breed in the Corral Hollow area, although I know of only one report which is unverified. Mr. Connely, a rancher in Corral Hollow told me that a man with the government(?)

came looking for nests. He reportedly found one which he studied for several days on Black Butte.

Specimens.--WBS Eggs (2), Stockton (12 mi. NE), 24 March 1901; WBS Eggs (1), Stockton (12.5 mi. SE), 22 April 1897.

BALD EAGLE-Haliaeetus leucocephalus (Linnaeus)

Status.--Rare.

Occasional winter records appear for the foothills about Hogan Dam (Calaveras County). No recent records for San Joaquin County have been found, although they might be expected. Belding (1879:437) wrote that it "now rarely visits Stockton." He recorded that it had formerly been more common, particularly in winter. I would look toward the new Comanche Reservoir as a possible habitat for them.

Subfamily Circinae

MARSH HAWK-Circus cyaneus hudsonius (Linnaeus)

Status.--Fairly common permanent.

Habitat and Distribution.--Prefers open fields and marshy sloughs. Formerly much more common in the Delta area. Generally distributed across the county in these habitats.

Nesting.--Courtship begins as early as February. The nest is made on the ground of grasses or sedges in a marsh or open field (barley, alfalfa), usually by early April (4 eggs, 6 April 1940). Incubation takes about a month.

Specimens.--MVZ 56360 ♀, Stockton marsh, 2 December 1907; JRA 829 ♀, Farmington, 28 October 1951; USNM 76630 ♂, Stockton?, ----.

Family Falconidae

PRAIRIE FALCON-Falco mexicanus Schlegel

Status.--Uncommon permanent.

Habitat and Distribution.--Seen occasionally throughout the year in the Corral Hollow-Hospital Canyon area where it prefers the vertical cliffs along the creek beds. Rock outcrops such as Black Butte are favorite habitat. Found less often but at any season in the Sierra foothill region east of Wallace. Winter records for the valley appear occasionally. Might be found in any open situation during the winter.

Nesting.--Four young birds were taken from a nest 24 April 1938 in Corral Hollow. I suspect that they nest in the previously mentioned areas fairly frequently.

Specimens.--MVZ 83311-83313, Corral Hollow, 24 April 1938; MVZ 83314, Corral Hollow, 24 April 1938 (destroyed).

PEREGRINE FALCON-Falco perigrinus Tunstall

Status.--Rare or accidental winter.

There is one good sight record, 20 December 1963. An adult bird was seen at a distance of about 100 yards on King Island near the Empire Tract Bridge (JLT, GWC). Its white throat was readily apparent, as was the dark hood pattern on the head and the pale tail bands. A local duck hunter tells me of watching a large "Cooper's Hawk" strike a coot in mid-air near Kettleman Place. The record might be attributable to this bird. The species was probably more abundant until around 1900 (Belding, 1879:434).

Specimens.--USNM 76618 ♀ juv., Stockton, 27 October 1878; USNM 76619 ♀ juv., Stockton, 29 October 1878.

PIGEON HAWK-Falco columbarius Linnaeus

Status.--Rare winter.

May be encountered anywhere in the county. The few existing records are for the inhabited parts of the valley. Certainly some wintering birds are mistaken for the Sparrow Hawk. A bird on Thornton Road (26 January 1957) was watched while it ate a small brown sparrow (VRJ, AE).

Specimens.--JRA 796 ♀ , Lodi, 2 December 1949; USNM 76621 ♂ juv., Stockton, 2 November 1878; USNM 76622 ♂ juv., Stockton, 27 October 1878.

SPARROW HAWK-Falco sparverius sparverius Linnaeus

Status.--Very common permanent.

Habitat and Distribution.--Very frequently seen, especially in winter. Any telephone wire, fence post or other slight prominence is likely to have a Sparrow Hawk upon it. Widely distributed, frequently in town, even venturing into downtown areas.

Food of the Sparrow Hawk is most often insects, small rodents and lizards. The stomach of a bird found dead on the Delta contained 1.1 grams of dragonflies and 8.4 grams of grasshoppers and crickets. During the late winter months, especially February and March, small birds form a part of the diet. I have records of their taking White-crowned Sparrows and Cedar Waxwings. Birds also form part of the diet during nesting season (Dawson, 1923:1642).

Nesting.--The nest is often an old woodpecker hole in an oak, a telephone pole or in one case the side of a barn (TU). Little nesting material is

deposited. Nest hunting begins in late February and early March. A full set of five eggs is usually laid by middle to late April. Egg dates for the foothill areas are generally a little earlier. Sets of four eggs are frequent. Young hatch during mid-May and leave the nest within another month.

Specimens.--SJDC 113 ♂, Stockton, 22 April 1941; SJDC 45 ♀, Stockton (River Drive), 16 November 1948; UOP 30 ♂, Stockton (Paradise Point), 15 November 1962; UOP 31 ♂, Stockton (7 mi. NW), 27 October 1963; WBS Eggs, 15 sets from localities all about the county, 5 April 1931 to 8 May 1921 (1921-1939).

Order GALLIFORMES

Family Phasianidae

CALIFORNIA QUAIL-Lophortyx californicus californicus (Shaw)

Status.--Common permanent. Very common near preferred habitats.

Habitat and Distribution.--Distributed generally, being found in or out of town, wherever there is low brush. Most abundant in the sage brush on both sides of the valley. In flocks of several hundred these birds were seen in Corral Hollow on 29 September 1963 (JLT, DJT). Slightly less common on open fields of the Delta and eastern valley.

Nesting.--Nests are made as early as late March, usually in underbrush or weedy parts of fields. Little or no nesting material is used, the eggs sometimes being laid on bare ground. Large clutches of 10-20 eggs are common. Nesting continues until late July or August, with the latest broods hatching in September.

Specimens.--WBS Eggs (7), Robert's Island, 7 August 1939; WBS Eggs (18), Bellota (1 mi. E), 18 April 1926; JRA 716 ♂, Stockton, 6 November 1941; JRA 860 ♀, Lodi, 3 December 1957; UOP 25 ♂, Empire Tract (school), 16 April 1963; UOP 26 ♀, Thornton (1 mi. S), 20 April 1963; UOP 27 ♀, Corral Hollow, 29 November 1963.

RING-NECKED PHEASANT-Phasianus colchicus Linnaeus

Status.--Common permanent. Introduced into San Joaquin County sometime after 1900.

Habitat and Distribution.--Most abundant on the Delta (very common). Few individuals are seen in the coast range areas, or up beyond Clements in the Sierra foothills. Available drinking water seems to be important in their distribution.

Nesting.--Nests in fields (clover, alfalfa, etc.) or grassy edge are most common. A raised nest, supported by vegetation nine inches above the ground was found 22 June 1948 (JRA). Eggs usually 11. Like the California Quail, nesting begins early and extends very late.

Specimens.--JRA 837 ♂, Stockton, 10 January 1953; UOP 34 ♂, Venice Island, 17 November 1962.

Order GRUIFORMES

Family Gruidae

SANDHILL CRANE-Grus canadensis canadensis (Linnaeus)
Grus canadensis tabida (Peters)

Status.--Very common winter.

Earliest Fall Date.--10 October 1963.

Latest Spring Date.--25 March 1948.

Wounded birds are sometimes found over the summer (July 1939, 5 mi. E. Terminous, one captured) (JG). Belding (1879:443) recorded them from the last of September to the first of May.

Habitat and Distribution.--During migration, frequently seen or heard over town and country. During mid-winter, certain areas contain concentrations of birds, while other areas yield frequent records. Between Thornton and Terminous a very large population of 3000 to 5000 birds can usually be found. All of the surrounding area is frequently visited in winter. The area around the San Joaquin River between San Joaquin City, Caswell State Park, and Wetherby Lake supports a population that numbers over 2000 birds in mid-winter. Union and Roberts Islands usually have winter populations. The peat lands of the mid-Delta region are for some reason less acceptable to them. Mortality is high in the areas of concentration. In a heavily used 100 acre area, 37 dead birds were found in late February 1964. I have seen areas where the concentration of dead birds would certainly be greater. Both subspecies occur with nearly equal frequency with intermediate individuals often observed. The subspecies intermix freely in wintering flocks.

Specimens.--SJDC 838 ♂, Stockton (10 mi. N), 8 February 1954; JRA 849 ♀, Bract Tract, 6 January 1956; UOP 35 ♂, Lodi (10 mi. NW), 23 February 1964.

Family Rallidae

VIRGINIA RAIL-Rallus limicola limicola Vieillot

Status.--Fairly common permanent.

Habitat and Distribution.--Marshy edges of streams and canals. Often found about the small channels in

the interior of Delta islands. Seldom seen unless flushed directly from the densest cover. I have encountered them from a canoe about the islands. More often heard than seen in summer. Very common in the rice fields.

Nesting.--I have no data, although it undoubtedly nests here. Reduction of the tules has greatly reduced the population.

Specimens.--MVZ 56368 ♂, Stockton marsh, 2 December 1902; USNM 76645 ♀, Stockton, 9 April 1878; UOP 79 ♂, Bacon Island, 26 November 1963; UOP 80 ♀, Farmington, 13 December 1963.

SORA-Porzana carolina (Linnaeus)

Status.--Fairly common permanent.

Habitat and Distribution.--Seen more often in winter than summer. This may be due more to secretiveness during the breeding season than to fewer birds. Habitat very similar to Virginia Rail. Rice fields, especially when wet but not deep with water are very good habitat. On one afternoon in October 1962, a friend and I estimated we saw 75 Soras, countless gallinules and coots and twenty or more Virginia Rails, by walking the small levees in a rice field north of Stockton (RRJ, JLT).

Nesting.--I have no nesting data although some people report having found their nests or young. I am certain that they breed here.

Specimens.--JRA 727 ♂, Stockton (Pacific Manor), 26 December 1941; MVZ 62353 ♀, Tracy (4 mi. NE), 26 October 1932; UOP 23 ♂, Farmington, 15 December 1963.

BLACK RAIL-Laterallus jamaicensis corturniculus (Ridgway)

Status.--Accidental.

One acceptable record only: Arnold (1960:405) was given a Black Rail killed on the road near Fourteenmile Slough in late August 1959. Also Belding (1879:443) records that he remembered shooting "a very small dark rail" that he supposed was this species.

Specimens.--JRA 881 ♂, Stockton (Fourteenmile Slough), 26 August 1959.

COMMON GALLINULE-Gallinula chloropus cachinnan Bangs

Status.--Common winter. Uncommon summer.

Habitat and Distribution.--Widely distributed about the county except in the inner coast range. Prefers slow moving sloughs, rivers and ponds where there is dense raspberry, willow or brush to creep into for cover. Spends much time on the banks in the underbrush. Often overlooked because of its similarity to the much more abundant coot. Belding (1879:443) felt it was a rare permanent resident.

Nesting.--Courtship begins in early April. Nests are built by mid-May with average clutches of eight or nine eggs. Nests are often of floating reeds and vegetation which rise and fall with the tide.

Specimens.--SJDC 51 ♀, Stockton (8 mi. NE), 12 September 1941; SJDC 169 ♀, Stockton (8 mi. N), 22 April 1950; SJDC 49 ♀, Stockton (River Drive), 10 December 1944; WBS Eggs, 2 sets (6, 9), Stockton (9 1/2 mi. NW), 14 May 1947; JRA 833 ♂, Stockton, 2 October 1953; WBS Eggs (8), Stockton (9 mi. NW), 18 May 1939; UOP 78 ♀, Farmington, 15 December 1963; UOP 24 ♀, Bacon Island, 26 November 1963.

AMERICAN COOT-Fulica americana americana Gmelin

Status.--Common summer. Very common winter.

Habitat and Distribution.--Found wherever there is water. Flocks of many hundreds are common in the winter when they wander as much as one-half mile from water, usually having walked the entire distance in search of pasture. Where these ambulatory groups cross a road it is not unusual to find forty or fifty dead ones that have been run down by vehicles. Their abundance and wide distribution in winter cannot be overstated. Large numbers begin arriving in early September and leave by late March. The summer population is scattered, and largely restricted to marshy ponds and sloughs.

Nesting.--Nest is a floating or anchored mass of reeds, grasses and vegetation located in a clump of tules or near the shore in a slough, pond or reservoir. Large clutches of eggs are laid. Some representative data are: 12 March 1947, Kettleman, scattered along the channel, not in flocks (JRA); 5 May 1940, Stockton-Arno, nesting, eggs and young; 18 May 1939, Stockton (7 mi. NW), six eggs (WBS); 11 May 1895, Stockton (10 mi. S), five eggs. The presence of nesting birds in an area one year has not always assured their presence another year.

Specimens.--WBS Eggs (6 sets), Stockton and vicinity, 11 May 1895, 18 May 1895; SJDC 50 ♀, Stockton (7 mi. N), 17 December 1938; MVZ 62799, Holden Island, 15 December 1932; MVZ 65147-65159, 65172 ♀♀, 65160-65171 ♂♂, Terminous (3 mi. E), 19 November 1933; JRA 511, Stockton, 7 November 1938; UOP 28 ♂, Venice Island, 20 November 1962; UOP 29, Empire Tract, 8 November 1963; USNM 76647 ♂, Stockton, 24 April 1878.

Order CHARADRIIFORMES

Family Charadriidae

KILLDEER-Charadrius vociferus vociferus Linnaeus

Status.--Very common winter. Common summer. Sometimes very abundant during migration.

Habitat and Distribution.--The Killdeer is common throughout the county. Flooded rice fields, irrigated pastures and grain fields, canal and marsh edges are favorite habitats. The coast range margin is the only area where they are not generally distributed but are restricted to ponds and waterholes. A large concentration of Killdeer was observed from the 4th to the 6th of October 1946 just north of Stockton (JRA, JGT). Several fields were estimated to contain more than 1000 birds each.

Nesting.--Pairs can be encountered as early as January, often by February. Nests are usually built and eggs laid during early April and into May. The first young appear by late April, early May. Nests and eggs are encountered up until mid-July, probably resulting from renesting. By this time young birds from broods of different ages begin to flock together.

Specimens.--SJDC 105 ♂, Stockton, 1 October 1940; WBS Eggs (4), Stockton (7 mi. NW), 26 May 1939; WBS Eggs (4), Stockton (9 mi. NW), 18 May 1947; JRA 755 imm., Lodi, 16 June 1948; JRA 843 ♀, Stockton, 3 December 1954; UOP 50 ♀, Stockton, 5/6/1955.

MOUNTAIN PLOVER-Eupoda montana (Townsend)

Status.--Rare winter. Previous to 1880, common winter.

Habitat and Distribution.--The presence of this small brownish plover has been reported only five times

for San Joaquin County since 1931. That it is frequently overlooked may well be true, but it has also become decidedly uncommon. Belding (1879:440) reported that when they were commonly encountered in winter a few arrived at Stockton by October, usually by November. It is to be expected in meadows, pastures or winter grass plantings. Bare or sparsely vegetated ground is acceptable.

Specimens.--USNM 76637 juv., Stockton, 3 November 1878; USNM 76632 juv., Stockton, 3 November 1878.

GOLDEN PLOVER-Pluvialis dominica (Muller)

Because of the continual confusion between winter plumaged Black-bellied Plovers and Golden Plovers, there are no acceptable Golden Plover records for San Joaquin County. Such reports, while possible, are very unlikely and open to rigorous examination.

BLACK-BELLIED PLOVER-Squatarola squatarola (Linnaeus)

Status.--Fairly common migrant. Uncommon winter.

Earliest Fall Date.--20 October 1963.

Latest Spring Date.--5 May 1963.

It may occur earlier, but precise records are lacking.

Habitat and Distribution.--The shores of flooded rice, potato, and corn fields, inundated Delta lands, temporary ponds and waterholes are acceptable habitats. Often moderate to large flocks will be sighted sleeping and resting from migration. Single birds are not very common. In the winter occasional small groups or singles are found.

Family Scolopacidae

COMMON SNIPE-Capella gallinago delicata (Ord)

Status.--Common winter.

Earliest Fall Date.--1 September 1947.

Latest Spring Date.--29 April 1950.

Habitat and Distribution.--Flooded fields, temporary ponds, marsh and stream edges are preferred, especially shallow water, the edge of which is lightly vegetated with sedges or grasses. The presence of a bird standing in the open is unusual and a good indication that many more are nearby in the low vegetation. Generally distributed across the valley in proper habitat.

Specimens.--SJDC 81 ♀, Stockton (5 mi. N), 18 November 1948; USNM 74287, Stockton, Spring 1878; USNM 76638, Stockton, October 1878.

LONG-BILLED CURLEW-Numenius americanus Bechstein

Status.--Fairly common winter. Rare summer.

Earliest Fall Date.--10 September 1948.

Latest Spring Date.--20 April 1963.

Summer records are probably of sick, wounded, or non-breeding birds. Dates include: 4 June 1948, north of Stockton; 20 May, Farmington (late migrant?); 10 July 1946, Lodi.

Habitat and Distribution.--Pastures, alfalfa and grain fields are preferred. Irrigated or flooded fields are not necessarily any more attractive than moist vegetated fields. Generally distributed along the foothills of the Sierras throughout migrations and winter. In the valley, certain areas seem to be preferred during mid-winter: Woodbridge Road west of Thornton Road; West Lane near

Hammer Lane; San Joaquin City area. Occasional records come from all parts of the county.

Specimens.--JRA 765, Stockton (8 mi. N), 19 November 1948.

WHIMBREL-Numenius phaeopus (Linnaeus)

Status.--Uncommon spring migrant.

Several records for March, April and May are the only encounters recorded for this species. It is usually found in short grass at the marshy edge of a pond or temporary water. Late winter records might be expected (Tyler, 1913:30), but I have found none.

SPOTTED SANDPIPER-Actitis macularia (Linnaeus)

Status.--Rare winter. Uncommon migrant.

Habitat and Distribution.--This relatively uncommon sandpiper is usually found along sandy or muddy beaches, or bars of rivers and ponds. Late winter records are for the valley floor (14 February 1941, Lewis Park, JRA; 22 February 1964, Stanislaus River east of Ripon, JLT, DJT, WJG), or for the low foothills of the Sierras. The few records for fall migration (15 October 1948; 1 November 1947, north Stockton)-(JRA, JG) are outnumbered by spring migration records, especially during May. When a wintering individual is found, it may be seen repeatedly at the same locality.

WILLET-Catoptrophorus semipalmatus (Gmelin)

Status.--Rare migrant.

Occasional records have appeared for September and October, late February and March. These are almost always for lone individuals along a mud flat exposed by the tide on the Delta, or wet mud near a

temporary pond.

GREATER YELLOWLEGS-Totanus melanoleucus (Gmelin)

Status.--Fairly common migrant. Rare winter.

Earliest Fall Date.--28 August 1962.

Latest Spring Date.--7 June 1941.

Habitat and Distribution.--It is seen most often about foothill ponds and streams, as well as open shores of bodies of water in the valley. Many records for "yellowlegs" appear, but observers have not carefully differentiated between this and the following species. There are no July records, and few mid-winter records.

Specimens.--UOP 41 ♀ , Venice Island, 31 October 1962.

LESSER YELLOWLEGS-Totanus flavipes (Gmelin)

Status.--Rare migrant.

Any sight record of this species should be made with care. There are two acceptable sightings: 27 April 1964 (JLT), north Stockton; 28 August 1962, Atherton Road (ESM, JLT). Belding (1879:441) collected one many years ago, and felt he saw another a few days later. Habitat like that of T. melanoleucus.

Specimens.--USNM 76634, Stockton, 13 September 1878.

LEAST SANDPIPER-Erolia minutilla (Vieillot)

Status.--Fairly common winter. More common during migration. Belding (1879:441) found it to be an abundant winter resident in 1878.

Earliest Fall Date.--1 September 1947.

Latest Spring Date.--29 April 1957.

Habitat and Distribution.--Large aggregations of mixed shorebirds are found about the more open shores of flooded fields, temporary and permanent ponds

during migration. The Least Sandpiper is usually the most numerous of the species involved. Small groups are encountered throughout the winter in suitable habitat.

Specimens.--JRA 857 ♂, Stockton, 29 April 1957; USNM 76640 juv., Stockton, Fall 1877; UOP 44 ♀, Baker Island (Delta), 13 October 1963; UOP 45 ♀, Baker Island, 13 October 1963.

DUNLIN-Erolia alpina pacifica (Coues)

Status.--Fairly common winter. More common in migration.

Earliest Fall Date.--27 September 1962.

Latest Spring Date.--7 May 1950.

Habitat and Distribution.--This species is usually found in the same habitat or mixed in with Least and Western Sandpipers. A large group of at least 1000 Dunlins in spring plumage was encountered 27 April 1963 on Atherton Road, resting and feeding in an irrigated asparagus field (ESM, JLT).

Specimens.--JRA 770 ♀, Stockton (8 mi. N), ? January 1949; UOP 39 ♀, Baker Island (Delta), 13 October 1963; UOP 40, Venice Island, 18 December 1963.

LONG-BILLED DOWITCHER-Limnodromus scolopaceus (Say)

Status.--Fairly common winter. Rare summer.

Three specimens of Dowitcher from San Joaquin County have been identified as Long-billed. Three others I have not seen. Many sight records have accumulated, all of which are included under this species.

Habitat and Distribution.--Found on exposed mud flats of flooded fields, mud bars of rivers and streams and exposed edges of ponds. Dowitchers seem

to be fairly common on migration, less common in mid-winter, and only rarely seen in summer.

Specimens.--L. scolopaceus - MVZ 97182, Stockton (6 mi. NW), 1 September 1947; JRA 537 ♂, Stockton (7 mi. N), 28 September 1940; JRA 772, Stockton, 4 January 1949; UOP 81 ♀, Venice Island, 18 December 1963; Limnodromus sp.- USNM 74285 ♀, 74286 ♀, Stockton, 25 April 1878; USNM 76639 ♀, Stockton, 5 November 1878.

WESTERN SANDPIPER-Ereunetes mauri (Cabanis)

Status.--Fairly common migrant. Uncommon winter.

Earliest Fall Date.--5 September 1920.

Latest Spring Date.--13 May 1950.

Habitat and Distribution.--Western Sandpipers are commonly found with Least Sandpipers and Dunlins. There seem to be no habitat differences among these birds when on migration or wintering.

Specimens.--MVZ 41024 imm. ♂, Stockton, 5 September 1920.

Family Recurvirostridae

AMERICAN AVOCET-Recurvirostra americana Gmelin

Status.--Fairly common summer.

Earliest Spring Date.--10 March 1963.

Latest Fall Date.--8 September 1947 (later records are expected).

Habitat and Distribution.--Temporary ponds in the clay-loam wetlands, and in the foothill prairies are often frequented. Later in the season they are often seen about rice fields and semi-permanent ponds. A margin of weeds or short emergent vegetation is preferred as is slightly alkaline water.

Nesting.--Four eggs are laid in late April or early May in a meager nest, usually on a point of

land or low damp island in a pond or overflow. One certain record: two young unable to fly, 21 August 1947, seen with two adults near Woodbridge Road (JRA). Field notes of observers attest to the vigorous defense of the nest evidenced by this species. Belding (1879:440) did not record the avocet in this area.

BLACK-NECKED STILT-Himantopus mexicanus (Miller)

Status.--Common summer.

Earliest Spring Date.--13 April 1878 (Belding, 1879:440).

Latest Fall Date.--17 October 1947.

Habitat and Distribution.--The Black-necked Stilt is a very common nester in the rice fields to the east of the county. Especially during migration it may also be found at the margins of temporary ponds and overflows as well as permanent ponds. Prefers water with short emergent vegetation. Does not swim as the avocet does. Where the avocet has seemingly been affected by reduction of marshlands, the stilt has not. This is partly due to its acceptance of rice field habitat.

Nesting.--Four or less commonly five eggs are laid in a marginal nest on small emergent spits or islands or more frequently in this area on the small check levees of rice fields. The nest is often a little vegetation scraped together or a small platform built at the edge of the water. Full egg sets are recorded from late April into early July.

Specimens.--SJDC 172 ♂, Farmington, 14 May 1950; WBS Eggs (4), Stockton (9 mi. NW), 2 July 1934; WBS Eggs (4), Stockton (9 mi. NW), 2 July 1934; JRA 744,

Stockton (north of UOP), 30 June 1947; USNM 76633 ♀, Stockton, 13 April 1878.

Family Phalaropodidae

WILSON'S PHALAROPE-Steganopus tricolor Vieillot

Status.--Fairly common migrant. Rare early and late records into the summer.

Habitat and Distribution.--Rice fields, temporary and permanent ponds are preferred. The South Oxidation Pond has yielded two September records (29, 1963; 17, 1962)-(JLT, ESM). Irrigated and flooded fields are good habitats. Spring records have come from Farmington (TU), north and east of Stockton and Guggolz Ranch (JG). Two birds were recorded 22 July 1947 at Lang Ranch (JRA).

Nesting.--Nesting has been recorded both north of us in Siskiyou County (Bryant, 1914:232), and south of us in Fresno County (Tyler, 1917:167). Arnold recalls Sampson's mentioning nesting Wilson's Phalaropes in San Joaquin County. The opportunity remains to find a nest or other positive proof.

NORTHERN PHALAROPE-Lobipes lobatus (Linnaeus)

Status.--Uncommon migrant.

There are more spring than fall records for this uncommon bird. Arnold recorded one group of 25 in a rice field 21 May 1948 on Eight Mile Road. I have never encountered them in the county.

Specimens.--MVZ 41114-41116, Stockton, 4 September 1920.

Family Laridae

GLAUCOUS-WINGED GULL-Larus glaucescens Naumann

Status.--Rare winter.

There are enough good sight records that I am including this species as an unusual winter inhabitant. My own encounters with this species have all been on the Delta where single birds have been identified, both mixed in with other gulls and flying alone. One adult has also been reported from Thornton (GMcC).

WESTERN GULL-Larus occidentalis Audubon

Status.--Rare winter.

As in the case of L. glaucescens, enough reports have come in from qualified observers that even allowing for some misidentification, this species occurs here nominally. Reported from the Ship Channel (JLT, ESM), flying over Stockton (JLT, DJT, ESM), the Stockton Country Club (JRA), and five miles north of Stockton (JRA). Probably individuals follow the Ship Channel up to Stockton and return, not dispersing to any great extent over the countryside.

HERRING GULL-Larus argentatus Pontoppidan

Status.--Common winter.

Earliest Fall Date.--1 October 1940.

Latest Spring Date.--24 April 1942 (later records expected).

Habitat and Distribution.--This gull is most frequently encountered on the Delta lands and western parts of the county, occasionally elsewhere. It is frequently found mixed in with other gulls following a tractor or sitting quietly in a field.

Specimens.--UOP 60 ♀, Stockton (Empire Tract), 9 February 1964.

CALIFORNIA GULL-Larus californicus Lawrence

Status.--Common winter. Fairly common summer.

Habitat and Distribution.--It is very frequently found anywhere about the county in winter. Often seen following tractors in mixed flocks with Ring-billed and Herring Gulls, flying about the port of Stockton, or encountered almost anywhere over the county except perhaps the coast range. Summer records are fewer, but substantial in number.

Specimens.--USNM 76657, Stockton, 15 October 1878; UOP 54, Bacon Island, 26 November 1963; UOP 56 ♀, Stockton (7 mi. NW), 27 October 1963.

RING-BILLED GULL-Larus delawarensis Ord

Status.--Very common winter. Uncommon summer.

Habitat and Distribution.--As for California Gull. Very large aggregate numbers of this species are seen daily in winter. The other species (except Bonaparte's Gull) are usually seen in company with this one. I have records for Ring-billed Gulls during all months, but there is a great preponderance of winter birds.

Specimens.--JRA 521 ♂, Stockton, 10 March 1939; UOP 61, Stockton (Bishop Island), 3 November 1963.

BONAPARTE'S GULL-Larus philadelphia (Ord)

Status.--Fairly common winter.

Habitat and Distribution.--Most often seen on the western part of the Delta, where it is frequent. Also recorded regularly from the Stockton Channel, and some of the watercourses through Stockton. Records also from "Terminous Road" (JRA) and Davis Lake (JLT).

Specimens.--UOP 42 ♂, Venice Island, 14 November 1962.

FORSTER'S TERN-Sterna forsteri Nuttall

Status.--Common migrant. Rare winter and summer.

Earliest Spring Date.--3 April 1963.

Latest Fall Date.--12 October 1963.

One mid-winter record by Belding (Grinnell and Miller, 1944:175).

Habitat and Distribution.--It is most often seen about Stockton, the Ship Channel, the Delta and Sierra foothill ponds. Records for birds flying over temporary overflow, irrigated fields, rice, etc. are occasional. One to three birds are usually sighted at once although small flocks are found occasionally. During Belding's time the species was a summer resident, and much more common (1879:448). Rare winter records may be expected.

Nesting.--It surely bred west of Stockton before 1900, being largely reduced in numbers by drainage of the tule lands (Belding, 1879:448; 1901:104). There are no localities within the county from which there are modern breeding records.

Specimens.--USNM 74289 ♀, Stockton, 17 April 1878.

CASPIAN TERN-Hydroprogne caspia (Pallus)

Status.--Rare throughout year.

The distinctive cry of this bird usually attracts the attention of an observer along the Ship Channel, on the Delta, near one of the rivers crossing east and west, or along the base of the Sierras. Small flocks are usually recorded. Some records are: 22 March 1947, near College of the Pacific (JRA); June 1939, Roberts Island (AAA); 1 June 1960, West Lane (JRA); 24 July 1954, Turning Basin (JRA); 6 October 1946, Calaveras River mouth (JRA, JGT). A mounted bird hangs in the Venice Island Farms Clubhouse operated by D. Nomellini.

This bird, shot while catching trout out of North Pond on Venice Island in January of either 1958 or 1959, and Ridgway's sighting (1881:124), are the only mid-winter records. Several sets of eggs in Sampson's collection for "east of Stockton," "Stockton (27 mi. E)," etc. are probably for the Woodward Reservoir (not San Joaquin County).

BLACK TERN-Chlidonias niger surinamensis (Gmelin)

Status.--Very common summer.

Earliest Spring Date.--24 April 1878 (Belding, 1879:448).

Latest Fall Date.--30 August 1940.

Habitat and Distribution.--Shallow swamps such as Arno Marshes, wide sloughs and ponds have some Black Terns both during migration and breeding, but by far the greatest number will be seen about rice fields and irrigated grass or alfalfa. The birds seem to arrive together or at least within a few days of one another, usually in late April or early May. They settle immediately to the building of nests and raising of young. As the young become self-sufficient, the adults leave, a few at a time, until by mid-July only late breeders and young birds remain. These leave soon, so that all or most of the population has left by early September.

Nesting.--Nests are floating or heaped vegetation in the midst of a small marsh or most frequently a rice field. They are built immediately after arrival, with full sets of eggs (2 or 3) being found by mid-May. Young start hatching by late May or early June. Recorded nesting localities are: 1 mile north of the University of the Pacific, 1947, (rice field)

(JRA); Kettleman Place, 1947, (small pond)-(WBS); White Ranch, 1921, (small temporary pond)-(WBS); Arno Marshes, 1937 to date and probably prior, (swamp)-(JRA, WBS, JG); several localities near Farmington, most in rice fields, 1950 to date (TU); Lower Sacramento Road, 1939 (rice)-(JG).

Specimens.--JRA 745 ♂, Stockton, 30 June 1947; JRA 740 Eggs (3), Kettleman Place, 6 June 1947; JRA 812 ♂, Stockton (5 mi. SE), 7 May 1950; WBS Eggs (3), Stockton (9 1/2 mi. NW), 1 June 1947; WBS Eggs (2), Stockton (9 1/2 mi. NW), 1 June 1947; WBS Eggs (2), Stockton (9 1/2 mi. NW), 1 June 1947; WBS Eggs (3), Stockton (9 mi. NW), 3 June 1921; USNM 74288 ♀, Stockton, 25 April 1878.

Order COLUMBIFORMES

Family Columbidae

BAND-TAILED PIGEON-Columba fasciata monilis Vigors

Status.--Uncommon winter. Spring migrant.

Earliest Fall Date.--7 November 1962.

Latest Spring Date.--18 June 1924.

Habitat and Distribution.--My sole encounter with them in San Joaquin County was along Mormon Slough, 7 November 1962. In Calaveras County to the east they had been common all along Highway 8 as far as Valley Springs. No more were seen until I passed Bellota, where I saw several birds in willows, oaks and introduced pines near the bridge. As dusk approached five others joined them from an orchard to the south. Such chance encounters seem to be the rule. They are occasionally seen in rapid flight over cities (UOP campus, 27 December 1940)-(JRA, JG),

perched or flying in slightly wooded areas (Kettleman Place, 21 March, 6 May 1948)-(JRA, JG), most often near oaks. Acorns are their preferred food but they have been known to accept several other seeds and berries as food (Grinnell and Miller, 1944:184).

Nesting.--There are no recorded data. One June specimen was taken in 1924, and three dead Bank-tailed Pigeons were reported by Sampson (1932:140) from a Great Horned Owl's nest.

Specimens.--CAS 26824 ♀, Stockton, 18 June 1924.

ROCK DOVE-Columba livia Gmelin

Status.--Common permanent.

Habitat and Distribution.--The introduced common pigeon has become truly feral. The buildings of cities and farm yards as well as the tops of palm trees provide nesting sites for some. Away from human habitation, pigeons are seen frequently in Corral Hollow where they are known to breed on Black Butte and the lower canyon walls. They are commonly encountered throughout the area. Favorite foods are figs and dates as well as grain and seeds.

Nesting.--This species nests at all seasons in this mild climate. The nest is a messy platform in a protected situation such as a crack or crevice, usually with two eggs.

Specimens.--UOP 86 ♀, Escalon, 8 August 1948.

MOURNING DOVE-Zenaidura macroura marginella (Woodhouse)

Status.--Fairly common winter (variable). Common summer.

Habitat and Distribution.--It is widely distributed throughout the county. Breeding season only slightly restricts it to areas with some deciduous or coniferous

trees. Winter populations vary from rare to very common from year to year. Migration is unpredictable, large flights being seen over several days in some years, no distinct flights in others.

Nesting.--Cooing can be heard from mid-February until late September or October. The first nests are built by early April, eggs are laid within one week and the first squabs hatch by late April. Multiple broods are reared, in rapid sequence. The latest record I have is a nest with two eggs ready to hatch, 1 September 1940 (JG). The nest is a frail platform of sticks supported on almost any horizontal surface, limbs of deciduous trees being the most common sites. Nests are found in unusual situations: 4 May 1963, Stockton, nest built over a Robin's nest, dove incubating (JLT, ESM); 7 May 1963, Stockton (UOP), nest on ground in dense base of coast redwood, bird flushed (JLT, RRJ); 20 May 1932, White Ranch, nest in hollow under stump (WBS). Sets of two eggs are usual but four are encountered.

Specimens.--WBS Eggs (4), Stockton (2 mi. W), 6 April 1939; WBS Eggs (2), Stockton (9 mi. NW), 28 May 1932 (2 sets); WBS Eggs (2), Stockton (8 mi. NW), 28 May 1932 (2 sets); MVZ 88637 ♀, Tracy (4 mi. NW), 8 September 1938.

Order CUCULIFORMES

Family Cuculidae

YELLOW-BILLED CUCKOO-*Coccyzus americanus* (Linnaeus)

Status.--Rare summer.

Habitat and Distribution.--A preference is shown for the dense willow jungles that once formed such an

extensive cover in the river bottoms. I have seen four modern records: 5 July 1947, Lang Ranch (JRA, JG); 20 July 1947, Lang Ranch (same individual?)-(JRA); 15 July 1947, Kettleman Place (JRA); 1 September to 30 September 1962, two birds, Stanislaus River mouth, seen again in summer of 1963 (GMcC). It was formerly more abundant (Belding, 1879:433; Grinnell and Miller, 1944:186), but has had to pay the price of land clearing. Willow-blackberry jungles, all but impenetrable to man, still exist in several areas within the county: Forest Lake and the lower Mokelumne River, lower Stanislaus River above Caswell State Park, and from east of South Airport Way where it crosses the San Joaquin River to very near the Western Pacific Railroad tracks. Here and in other less extensive areas the "cuk-cuck-cuck-cuck-cuk" call of the Yellow-billed Cuckoo might be expected after mid-June.

Nesting.--While it is highly likely that they nest in small numbers, because of the impenetrable habitat and scarcity of nests, none have been found.

ROADRUNNER-Geococcyx californianus (Lesson)

Status.--Fairly common permanent (in preferred habitats).

Habitat and Distribution.--It prefers the semi-open chaparral of the coast range and Sierra foothills, where lizards and snakes form the bulk of its diet. Hospital Canyon, Corral Hollow, Lone Tree or Deep Gulch Creeks have been favorable localities in late spring or early summer. Some records come from the area between Bellota and Clements. Rare records come from the valley floor: Stockton (Lewis Park),

about 1940 (JRA). Continued fire protection may be allowing the chaparral-grassland areas to mature, producing a more unsuitable homogeneous environment for the Roadrunner.

Nesting.--No data are available to me, although it surely nests within the county.

Order STRIGIFORMES

Family Tytonidae

BARN OWL-Tyto alba pratincola (Bonaparte)

Status.--Common permanent.

Habitat and Distribution.--Nocturnal feeding stations are ridgepoles and ledges of buildings, dense conifers and palms, open deciduous trees, rock ledges, and natural prominences. Its very white underparts, notable in flight, have been the source of several "Snowy Owl" records. Seldom seen in the daytime except when disturbed, it spends most diurnal hours in protected crevices, dense trees (conifers and palms) or in and about buildings. On late afternoons and in cloudy weather, it is sometimes found abroad.

It is not unusual, even in these enlightened times, to find dead Barn Owls strung on fences or nailed to barn doors. A resident of Davis Road on the Mokelumne River has waged a continuous battle against them for several years. During the winter of 1963-64 he killed by gun and pole-trap seven Barn Owls and several other avian predators (minimum figure only). Legally he is within his rights because he confines his activity to his own land in protection of his Bantam chickens.

Nesting.--Nest sites are usually protected ledges, tank towers, bell towers, deserted buildings, decorative ledges of large buildings. Natural sites include deep caves in Corral Hollow (very common), burrows in horizontal banks, hollow trees and stumps, as well as the tops of palm trees. Open nests on flat roof tops are usually placed in a corner. There is little nesting material, usually no more than natural debris scraped into a circular dam around the clutch of eggs. Large clutches are sometimes found (8 March 1931, 10 eggs-JG; 15 March 1964, 12 eggs-JLT), but six is more common. The clutch of 12 eggs mentioned above lost one egg each day by mysterious causes until a set of three was left. The nest site was almost certainly rodent proof and loss by rolling out was impossible. Jays may have found the nest in daylight hours, but would have had to drive off the very faithful sitting bird.

The pencil-sharpener sound indicative of nesting season is first heard in early February. Some clutches are completed by late February, most by early March. Incubation begins with the first egg. Renesting of an unsuccessful pair occurs.

Specimens.--SJDC 46 ♂, Stockton, 10 December 1941; WBS Eggs (6), Robert's Island, 28 March 1941; WBS Eggs (6), Bellota (6 mi. NE), 4 April 1931; WBS Eggs (6), W. P. Bridge on San Joaquin River, 27 April 1921; MVZ 70333 ♂, west of Bordon Highway, 7 December 1936; MVZ 83309 and 83310, Tracy, 24 April 1938; JRA 713 ♂, Stockton (8 mi. N), 10 October 1941; UOP 63 ♂, Terminous (3 mi. W), 7 April 1963.

Family Strigidae

SCREECH OWL-*Otus asio* (Linnaeus)

Status.--Fairly common permanent. Formerly more common.

Habitat and Distribution.--Cities and towns, usually associated with oaks, sycamores, cottonwoods or other large deciduous trees. Across the valley or in the foothills, encountered near trees. Records are seldom obtained except by voice or finding a dead bird. Belding (1879:433) referred to it as "quite abundant" in 1878. Extensive reduction in numbers of the large old oaks across the valley, and tree maintainance in cities may well have reduced available roosting and nesting sites.

Nesting.--In a hole in a tree or rarely in an old woodpecker hole in a telephone pole near the edge of riparian woodlands. Usually four eggs are laid in the bottom of the cavity on the natural debris present. Calling is most apparent from mid-March, with full clutches of eggs by April.

Specimens.--WBS Eggs (4 each), near Bellota (4 sets), 23 April 1933, 3 April 1936, 18 April 1937, 29 April 1938; WBS Eggs (4), Stockton (9 mi. NW), 13 April 1936; MVZ75118 ♂, Stockton (10 mi. SW), 22 February 1939 (skeleton); JRA 880 ♀, King Island Resort, 1 November 1959; WBS Eggs (3), Bellota, 2 May 1930; WBS Eggs (4), Bellota (2 mi. E), 18 April 1926; UOP 71 ♀, Stockton (2 mi. S), 1963; USNM 76614 ♀, Stockton, 12 November 1878.

GREAT HORNED OWL-*Bubo virginianus pacificus* Cassin

Status.--Common permanent.

Habitat and Distribution.--Records come from all parts of the county. Occasionally seen in the late afternoon if the light intensity is low. A short walk through an oak grove, either in the valley or eastern foothills, will often result in flushing one or more. They are most often heard on late winter and spring evenings, usually in the vicinity of one or more large trees. Occasional records for cities, for example one bird was seen for several days at 820 North Stockton Street, Stockton. Animal remains near nests indicate that rabbits and coots are taken to some extent as prey items (JG), as well as land birds (Sampson, 1932:140).

Nesting.--Nests are frequently found in oaks or willows. Old heron and egret nests are used as well as Red-tailed Hawk and Yellow-billed Magpie nests. Natural cavities in large trees or rock crevices are used less frequently. Eggs are laid in February and March. Young are noted by mid- and late March.

Specimens.--JRA 534 ♂, Stockton (6 mi. SE), 22 February 1940; JRA 798 ♀, Lodi, 14 December 1949; WBS Eggs, seventeen sets from various localities, 15 February to 19 March (1924 to 1940).

BURROWING OWL-Speotyto cunicularia hypugaea (Bonaparte)

Status.--Fairly common permanent. Formerly abundant.

Habitat and Distribution.--Throughout the foothills as well as the extensive pasture, grain and alfalfa fields of the valley. Dependent upon burrows of California ground squirrels and other large mammals. Many records exist for the Tracy area where it was once one of the most common birds of the area (WT).

The extensive grain fields which once covered so much of the county provided ideal habitat. The ground squirrels were previously exceedingly numerous before poisoning campaigns and pest hunts. Great reduction in this combination of open fields and nesting burrows has reduced the number of Burrowing Owls. Even so, groups as large as twenty birds are sometimes seen in fall (JCS).

Nesting.--In old mammal burrows, especially those of the California ground squirrel. Eggs are laid from early April to May, with young being found in early May.

Specimens.--USNM 76617, Stockton, November 1878; SJDC 112, Stockton (7 mi. N), 17 December 1940; SJDC 20 ♂, Escalon, 8 August 1948; WBS Eggs (5), near Lathrop, 8 May 1896; MVZ 19464, Tracy, 14 March 1911; MVZ 19465, Tracy, 8 March 1911; MVZ 54609 ♂, Linden, 22 April 1930; CAS 44939 ♂, Waterloo, 9 May 1882; UOP 67 ♂, Stockton (Empire Tract), 14 December 1963.

LONG-EARED OWL-*Asio otus tuftsi* Godfrey

Status.--Rare permanent.

Habitat and Distribution.--Prefers dense wooded river bottoms and flood plains. Records from Littlejohns Creek (TU), Kettleman Place (JRA, JG), northeast of Woodbridge (JG), Venice Island (DN). Mounted birds appear with regularity in gun clubs and taxidermist shops. Clearing of streambanks to promote drainage and of lowlands to allow farming has greatly reduced available habitat.

Nesting.--No data is available from San Joaquin County. The nearest nesting record is 24 miles east

of Stockton, just inside Stanislaus County. It undoubtedly has nests in the county.

SHORT-EARED OWL-Asio flammeus flammeus (Pontoppidan)

Status.--Fairly common migrant. Uncommon winter.

Habitat and Distribution.--Seemingly the nocturnal counterpart of the Marsh Hawk. Most often encountered flying over the tules, lightly grazed pastures, marshes, or fields of alfalfa and low grain. In the daytime it roosts on the ground in these places under the cover of low vegetation. During pheasant season, hunters sometimes encounter them roosting in tall grass or asparagus fields. In some instances many birds are gunned down. The farm foreman on a ranch on Upper Jones Tract told me that the hunters on his land were instructed to shoot all such birds because of their "known" game killing habits. Fewer birds winter in this area than migrate through.

Specimens.--SJDC 194 ♀ , Stockton (9 mi. N), 29 December 1949; UOP 66 ♀ , Bacon Island, 27 November 1963; USNM 74299 ♂ , Stockton, 30 March 1878.

SAW-WHET OWL-Aegolius acadicus acadicus (Gmelin)

Status.--Rare.

One record, a single bird seen 10 March 1940, eight miles southeast of Stockton (WP).

Order CAPRIMULGIFORMES

Family Caprimulgidae

POOR-WILL-Phalaenoptilus nuttallii californicus Ridgway

Status.--Uncommon migrant and winter.

Habitat and Distribution.--Late spring records and early fall records are common, coming from both

the foothills and the valley. These are probably migrant birds although there is some indication a few might stay through the summer in the foothills. Johnston and Ellis heard one calling in late April in Corral Hollow. Belding (1879:76) referred to it as "very rare in summer" and listed one specimen for July. Few records occur for winter. A bird found in a torpid state "south of Tracy" (probably Corral Hollow) was brought into the Junior Museum by a schoolboy in December 1962. Attempts were made to force feed it, and it subsequently died. Our winter population might well be a non-active one.

Specimens.--SJDC 52 ♀ , Stockton, 17 May 1939; JRA 712 ♂ , Stockton, 6 October 1941; CAS 45853 ♂ , Waterloo, 16 October 1886; USNM 73978, Stockton, July 1877.

LESSER NIGHTHAWK-Chordeiles acutipennis texensis Lawrence

Status.--Uncommon summer.

Habitat and Distribution.--I have never seen this species in California, and reports from other observers are conflicting. It has bred in some numbers in the inner coast range in San Joaquin County. A local hunter reports that he has seen "nighthawks" regularly about vineyards, which agrees with statements by Tyler (1913:56-57) for this species. Nighthawks reportedly once nested in the tower of the old jail house in downtown Stockton (TB). In any case, few modern records exist except for Corral Hollow and Hospital Canyon (VRJ, AE).

Nesting.--Two eggs are laid in April or May on bare ground, or rarely on flat tops of buildings,

with no vestige of nesting material. The eggs collected in the inner coast range were in partial shade, under chaparral in dry creek beds (WBS, EAS).

Specimens.--WBS Eggs (2), Stockton (26 mi. S), 10 May 1935; WBS Eggs (2), Stockton (26 mi. S, Hospital Canyon), 26 April 1935; WBS Eggs (2), Stockton (26 mi. S, Hospital Conyon), 17 May 1934-(all of the preceeding very possibly Stanislaus County); WBS Eggs (2), Stockton (20 mi. S, Hospital Canyon), 6 May 1934; WBS Eggs (2), Tracy (mouth Hospital Canyon), 16 May 1939; EAS Eggs (2), Lone Tree Canyon, 27 May 1934; EAS Eggs (2), Tracy (Hospital Canyon), 27 May 1934, (2 sets).

Order APODIFORMES

Family Apodidae

VAUX'S SWIFT-Chaetura vauxi vauxi (Townsend)

Status.--Rare migrant.

One record, 19 April 1963 on Empire Tract near the schoolhouse. One bird flying fast and low (10 feet) in a westerly direction (ESM, JLT). Although the bird went by very quickly, we were both confident it was a small dark-gray swift. The height and manner of flight were also distinctive (see Tyler, 1913:58).

WHITE-THROATED SWIFT-Aeronautes saxatalis saxatalis (Woodhouse)

Status.--Rare migrant.

Habitat and Distribution.--Although this species probably passes through San Joaquin County in some numbers each spring and fall it is seldom observed. One record for Corral Hollow (16 March 1946) of

several birds about the rock walls, landing on small shelves, and flying away noisily (VRJ, AE). It has also been recorded just out of San Joaquin County to the east in the foothills near Ione (VRJ, AE). There are no breeding records.

Family Trochilidae

BLACK-CHINNED HUMMINGBIRD-Archilochus alexandri (Bourcier and Mulsant)

Status.--Fairly common summer.

Earliest Spring Date.--15 April 1921 (female, nest with eggs).

Latest Fall Date.--5 October 1946.

Habitat and Distribution.--Generally distributed about the county. Recorded from Corral Hollow, the Delta, cities and towns of the valley, and Sierra foothills. Found near broadleaved trees, shrubs, and flowering vegetation of all types.

Nesting.--Females and males found separately, the male never or rarely about the nest. Male usually occupies and defends a feeding area over a riverbank or weedy fence row. The female builds the nest on a horizontal limb or large fork of a sycamore, willow or poplar, using "cotton" from flowers of poplar, etc. Eggs usually two, deposited from mid-April to late May.

Specimens.--WBS Eggs (2), Stockton (high school grounds), 15 April 1921.

ANNA'S HUMMINGBIRD-Calypte anna (Lesson)

Status.--Fairly common permanent.

Habitat and Distribution.--Presence dictated by the flowering of plants. Can be encountered at any season throughout the county. For a discussion

of increase in numbers due to changing habitat conditions, see Grinnell and Miller (1944:218-220).

Nesting.--No data available although I expect that it breeds in the Upper Sonoran of the low foothills at the east and west margins of the county.

Specimens.--JRA 775 ♂, Lodi, 28 January 1949.

RUFOUS HUMMINGBIRD-Selasphorus rufus (Gmelin)

Status.--Rare migrant.

One record from Belding (1879:427), who reported he had seen "a few in the spring at Stockton." To be expected again in migration.

Specimens.--USNM 74267 ♀, Stockton, 30 April 1879.

ALLEN'S HUMMINGBIRD-Selasphorus sasin sasin (Lesson)

Status.--Rare migrant.

Two records: 4 June 1940, Lewis Park (JRA); and 24-31 August 1963, Stockton (JCS). The August individual remained feeding and resting in a bottlebrush tree for several days.

Order CORACIIFORMES

Family Alcedinidae

BELTED KINGFISHER-Megacerle alcyon caurina (Grinnell)

Status.--Uncommon permanent.

Habitat and Distribution.--Feeding and resting habitat wherever there is still or slowly moving water. Rivers and sloughs, foothill ponds and reservoirs are favorite localities.

Nesting.--Few nest records. Nest site is a burrow in the cut bank of a stream, gravel pit, erosion face, etc. Nest on Mokelumne River, 27 May 1939, with three young (JG). Nest found 3 June 1945 on Calaveras River, contents unknown(JRA).

Nest site may be some distance from food source.

Specimens.--SJDC 43 ♂ , Stockton (1 mi. from COP), 26 April 1948; USNM 74284 ♀ , Stockton, 15 April 1878.

Order PICIFORMES

Family Picidae

RED-SHAFTED FLICKER-*Colaptes cafer collaris* Vigors

Status.--Very common permanent.

Habitat and Distribution.--Distributed fully throughout the county. Roosts, nests and feeds among trees and buildings. Spends equally as much time on the ground in the open digging for insects, especially ants.

Nesting.--Mating occurs in late March, early April, preceded by much hammering on a resonant object such as a tin down spout, tin roof or loose bark of a tree. Eggs, from five to ten, are placed in a deep hole in a telephone pole, tree, or rafters about a barn. The hole is usually freshly made, although re-use of the same hole by a pair or by different birds has been recorded. Young appear from late April through June.

Hybrids.--From the time of the earliest records to the present date, flickers with yellow shafts have appeared in this county. The Boreal Yellow-shafted Flicker (*Colaptes auratus borealis* Ridgway) is known to occur in California to as far south as San Diego (Huey, 1932:140), but I know of no records for San Joaquin County. Two obvious hybrids between *C. auratus* and *C. cafer* exist as specimens, as well as several birds showing some slight degree of

hybridization. Indeed, there were two days in the fall of 1962 when it was difficult to find a flicker on Empire Tract that did not have some noticable yellow or other C. auratus character.

Specimens.--USNM 76609 ♀ , Stockton, 3 October 1878; SJDC 166 ♂, Lodi, 28 February 1950; SJDC 180, Stockton, 1 December 1950, x auratus; SJDC 108 ♀ , Stockton (1/2 mi. N), 3 November 1938; JRA 732 ♂, Linden, 16 October 1946; USNM 74458 ♀ , Stockton, 8 June 1878, x auratus; UOP 97 ♀ , Stockton (W side), 14 February 1964; UOP 98 ♀ , Empire Tract, 15 March 1963; UOP 99 ♀ , Farmington (1 mi. W), 9 November 1963; UOP 100 ♀ , Farmington (1 mi. W), 9 November 1963.

ACORN WOODPECKER-Melanerpes formicivorus bairdi Ridgway

Status.--Common permanent.

Habitat and Distribution.--Found in the oak groves of valley and foothills commonly. Has penetrated the orchards and towns where few or no oaks are growing. Previously seemed dependent upon acorns. For the sake of tradition, I must mention that acorns are stored in great quantities in holes in fence posts, telephone poles, trees and buildings. A large storage tree has the appearance of having been machine-gunned with acorns.

Nesting.--Nests in holes in trees and poles, either drilled or natural. Eggs are found from late April through August. Arnold recorded one nest in Stockton on 7 September 1946 with adults feeding young.

Specimens.--SJDC 150 ♂, Lodi Grammar School, March 1949; SJDC 72 ♀, Stockton, 10 April 1948; WBS Eggs (6), Stockton (13 mi. SW), 30 May 1924; WBS Eggs (5), Stockton, (14 mi. SW), 10 May 1924; MVZ 19473, Tracy, 11 March 1911; JRA 525 ♀, Stockton, 15 May 1939; UOP 92 ♀, Stockton (7 mi. NW), 10 August 1948; UOP 93 ♂, Stockton (8 mi. N), 8/10/48.

LEWIS WOODPECKER-Asyndesmus lewis (Gray)

Status.--Uncommon to fairly common winter. Numbers vary yearly.

Earliest Fall Date.--18 September 1940.

Latest Spring Date.--12 May 1942.

Habitat and Distribution.--Found about broken oak groves or scattered trees and buildings. Recorded from within cities and towns occasionally. For long periods tends to remain quietly on a perch from which it forages out for flycatching and returns. Sometimes very loud and active, especially when several are seen together. More common about trees in foothills of Sierras than any other single area. Belding (1879:430) indicated that it bred in this area, but did not elaborate. There are no modern records in support of this.

Specimens.--JRA 782 ♂, Lodi, 17 February 1949; USNM 74282 ♂, Stockton, 27 March 1878; USNM 74283 ♀, Stockton, 9 April 1878.

YELLOW-BELLIED SAPSUCKER-Sphyrapicus varius daggetti Grinnell

Status.--Uncommon to fairly common winter. Numbers vary yearly.

Earliest Fall Date.--7 October 1963.

Latest Spring Date.--15 March 1964.

Habitat and Distribution.--Found in presence of large oaks and sycamores where it searches for insect food by flipping away bits of bark. When in search of sap, it drills numerous holes very low in any small shrub or young tree with a moderately thin bark (in orchard or yard as well as afield). This is very unlike its habit in summer of drilling fewer holes high in a small number of large trees. I would suspect that flow of sap is more important than type of tree encountered. Generally distributed across the county. One record for Corral Hollow; three dead birds were found under a large pepper tree, the only tree or bush for three-quarters of a mile or more (JLT, DJT, GWC). Records for the valley and Sierra foothills are very common.

Specimens.--SJDC 167, Lodi, 16 December 1949; JRA 510, Stockton, 15 October 1938; UOP 95 ♀, Clements (2 mi. E), 7 December 1963.

DOWNY WOODPECKER-Dendrocopos pubescens turati (Malherbe)

Status.--Fairly common permanent.

Habitat and Distribution.--Willow jungles of river bottoms and Delta area. Oak edge along major streams, and shrubby edge in yards about town. Generally distributed. Requires moderate sized trees for roosting and nesting sites. Forages extensively in oak groves and orchards.

Nesting.--Holes are excavated in dead trees or limbs, usually quite high in the tree. Four or five eggs are deposited from mid-April to late May.

Specimens.--SJDC 123 ♂, Stockton, 5 December 1938; MVZ 22699, Tracy Lake, 27 March 1912; JRA 517 ♂, north of Stockton, 5 December 1938.

NUTTALL'S WOODPECKER-Dendrocopos nuttallii (Gambel)

Status.--Fairly common permanent.

Habitat and Distribution.--Generally distributed in presence of large oaks or other deciduous trees. Not as restricted to willow and low growth areas as Downy Woodpecker. Forages freely in orchards and river bottoms.

Nesting.--Nest placed anywhere in standing dead wood. Excavates own nest, or uses a natural cavity located from just above the ground to thirty feet or more. Eggs four or five, laid in late April or early May.

Specimens.--WBS Eggs (4), Stockton (Trahern Ranch), 26 April 1925; WBS Eggs (4), Stockton (20 mi. S), 18 April 1928; MVZ 19470, Tracy, 17 March 1911; USNM 76605 ♂, Stockton, 13 November 1878; UOP 89 ♂, Clements (2 mi. E), 7 December 1963.

Order PASSERIFORMES

Family Tyrannidae

WESTERN KINGBIRD-Tyrannus verticalis Say

Status.--Very common summer.

Earliest Spring Date.--16 March 1946.

Latest Fall Date.--7 September 1946.

Habitat and Distribution.--Arrives all at once: not present one day, vociferously so the next. The small groves or individual trees of the foothill regions interspersed with open fields or pastures are their favorite habitats. Requires open areas occasionally broken by trees, poles or buildings to provide perches and nesting places. The bird is generally distributed across the county. Departure

in the fall is more gradual than arrival in the spring.

Nesting.--Nest site is an open cavity in a tree, pole, building, or nearly any other situation off the ground which affords some support and protection from the sides as well as bottom. Nest is of dry leaves, grass, or roots, lined with hair or very commonly string. Four eggs (occasionally five) are laid usually early in May. Often nests near human habitation in open situations. Defense of the nest is vigorous.

Specimens.--WBS Eggs, 19 sets from all about the county, 3 May 1896 to 30 May 1924, 1925 (1895-1940); JRA 761 ♂ imm., Stockton (8 mi. N), 7 August 1948; MVZ 47108, Ripon, 12 July 1926; CAS 22675 ♀, Waterloo, 3 May 1882.

ASH-THROATED FLYCATCHER-Myiarchus cinerascens cinerascens (Lawrence)

Status.--Fairly common summer.

Earliest Spring Date.--19 April 1947.

Latest Fall Date.--7 September 1878 (Belding, 1879:424).

Habitat and Distribution.--During migration the oak groves, especially when broken by open areas, provide the best habitat. Found in Corral Hollow, along the major rivers and near scattered oaks on the valley floor and up into the Sierra foothills. Also found in the mixed chaparral from Bellota north. A bird of the wooded edge environment.

Nesting.--Nest in a cavity in a telephone pole, or a large old oak or willow. Usually near an expanse of low underbrush or chaparral. Eggs usually

four, laid from mid-May to early June.

Specimens.--USNM 74281 ♂, Stockton, 27 April 1878; WBS Eggs (4), Stockton (12 mi. SW), 30 May 1924; WBS Eggs, Stockton (9 mi. NW), 1 June 1924; WBS Eggs, Stockton (12 mi. SW), 8 June 1924; WBS Eggs, Stockton (9 mi. NW), 26 May 1936; JGT Eggs (4), Stockton (12 mi. SW), 30 May 1924; JRA 759 ♀, Stockton (10 mi. NE), 25 July 1948; CAS 22685, Waterloo, 11 May 1882.

BLACK PHOEBE-Sayornis nigricans semiatra (Vigors)

Status.--Common summer. Fairly common winter.

Habitat and Distribution.--From spring through summer it is frequently encountered at or near bridges and cut banks of most streams in the county. Most common in eastern and southern parts of the county. More dispersed throughout winter, being encountered very nearly anywhere there is water, and even some distance from it if ground and vegetation are moist.

Nesting.--Most often under bridges, less frequently on buildings or cut banks near water. Nest is a shallow half-cup of grass, roots and hair adhering to a vertical wall. The first eggs are laid in mid-March, with egg dates extending into late May. The normal clutch is four or five.

Specimens.--SJDC 31 ♀, north Stockton (4 mi. W), 4 January 1949; WBS Eggs, McNoble Property, 30 March 1947; WBS Eggs, Stockton (3 mi. W), 24 April 1938; WBS Eggs, Stockton (8 mi. NW), 8 May 1936; WBS Eggs (4), near Stockton, 20 April 1895; USNM 73611 juv., Stockton, July 1877.

SAY'S PHOEBE-Sayornis saya (Bonaparte)

Status.--Fairly common winter. Possible summer in inner coast range.

Habitat and Distribution.--Can be expected on migration or wintering anywhere about the county. Sightings are most frequent after 10 September and continue until 15 April. Can usually be found in Corral Hollow in the inner coast range. Records for this region also extend into late May which is later than nests and eggs of this species have been recorded directly adjacent in Alameda County. The southwest corner of the county offers open short grasslands only occasionally interspersed with trees or shrubs. The availability of this ideal habitat, and the late spring records suggest possible breeding.

Specimens.--SJDC 24, Farmington (5 mi. E), 11 November 1948; USNM 73999, Stockton, November 1877; USNM 76601, Stockton, 17 October 1878.

TRAILL'S FLYCATCHER-Empidonax traillii brewsteri Oberholser

Status.--Fairly common summer.

Earliest Spring Date.--30 April 1878 (Belding, 1890:101).

Habitat and Distribution.--River bottom willow jungles, short brush and shrubs about damp areas in migration. Rather restricted to second growth willows for breeding season. Records from most of the east-west rivers and creeks and the lowlands of the San Joaquin River. Low willows which grow up rapidly on channel dredging waste provide ideal habitat. Presently such an area exists on both sides of Jacobs Road at the east end of Burns Cutoff.

Nesting.--Nest is a small cup of plant material in a crotch of a small sapling or thicket of limbs. Eggs three or four, being laid about 10 May.

Specimens.--USNM 73044 ♂, Stockton, July 1877.

HAMMOND'S FLYCATCHER-Empidonax hammondi (Xanthus)

Status.--Migrant.

Records and specimens from Belding only. Recent observers have not procured specimens of representative Empidonaces, and field identification to species is virtually impossible. In his earliest paper concerning the birds of central California (1879:426), Belding observed this bird to be "rare and confined to the willow thickets on river banks" when in the Stockton area. In a later paper (1890:103), the bird was stated to be "by no means rare during migrations." The impression is given by Grinnell and Miller (1944:257) that the species is a common transient through this part of the valley.

Specimens.--CAS 46581 ♂, Stockton, 11 May 1880; USNM 76603 ♂, Stockton, 9 May 1878.

WESTERN FLYCATCHER-Empidonax difficilis difficilis Baird

Status.--Migrant.

One specimen, one reference. Sight records that might be acceptable judging from descriptions are: 8 May 1942, UOP campus, (JRA); 27 April 1947, Woodbridge, (VRJ, AE, JRA, JG); 13 May 1963, Empire Tract, (ESM). Belding (1879:425) found them in open oak groves on migration, one as early as May first.

Specimens.--CAS 46515 ♀, Waterloo, 14 May 1882.

WESTERN WOOD PEWEE-Contopus sordidulus Sclater

Status.--Fairly common migrant. Uncommon summer.

Earliest Spring Date.--2 May 1963.

Latest Fall Date.--16 September 1963.

Habitat and Distribution.--Prefers oak groves and river bottoms with mature trees. Quite often seen in cities and towns. Localities at which it has been sighted are: Stockton, "North of Stockton," Kettleman Ranch, "Mokelumne River," Caswell State Park, Arno Marshes, Brookside Road, Calaveras River where it enters the San Joaquin River, and Waterloo.

Nesting.--Belding (1879:425) indicated that it bred here. I have no modern nest records, although there are sight records which span the summer: 30 May 1963, Caswell State Park; 30 June 1948, northwest of Stockton; 20 July 1940, north of Stockton, "several" (family group?); 23 July 1953, Stockton; 2 August --, north of Stockton.

Specimens.--CAS 22959 ♂, Waterloo, 10 May 1882; USNM 74454, Stockton, 15 May 1878.

VERMILION FLYCATCHER-Pyrocephalus rubinus (Boddaert)

Status.--Accidental.

One record, which was first brought to my attention by a sentence in The Gull (1964:22): "The Sacramento Observer reports a male vermilion flycatcher south of Thornton on January 13 and 14. He was photographed." By contacting the president of the Stockton Audubon Society, I was informed that Mrs. H. M. Kimball of Sacramento had called Stockton Audubon so that interested observers could go up to Thornton and possibly see the bird. The exact dates, locality, and observers have not been made available. Photos of a Vermilion Flycatcher were shown at the Stockton Audubon Society meeting in April and were reportedly of this individual. The subspecies cannot be determined without a

specimen.

Family Alaudidae

HORNED LARK-Eremophila alpestris (Linnaeus)

Status.--Common permanent.

One of the most common birds of the county when the land was extensively planted to grain.

Habitat and Distribution.--Scattered in summer but occurs widely over the Sierran foothills, the Central Valley and inner coast ranges. Also found on golf courses, in open asparagus fields and new vineyards and orchards. Prefers roadsides and the low rolling pastures of short grass in the eastern part of the county. During the breeding season the birds in the northern half of the county are largely E. a. rubea Henshaw, the type locality for this subspecies being Stockton (Henshaw, 1884:260, 267). Specimens in the Museum of Vertebrate Zoology at Berkeley taken in 1920 are E. a. rubea but are reported to be intergradient toward E. a. actia (Grinnell and Miller, 1944:269) which during breeding season occupies the southern half of the county. The eggs in Sampson's collection were taken well within rubea territory. Two specimens in Arnolds collection and one at the University of the Pacific have not been identified as to subspecies.

Our winter population is of a different character, many of the residents moving out, with an influx of birds from the high mountains and northern areas. One bird killed by Guggolz in January 1941 was identified by A. H. Miller as E. a. sierrae. During the winter they are more widely distributed, occurring freely on Delta lands, plowed farmland, picked over

corn and cut grain fields as well as their usual habitats.

Nesting.--Pairs are formed and aerial song noted in late February. Eggs are laid in March, often extending into June. Nest usually a cup of grass and other plant material located at the base of some small plant or other prominence on an otherwise featureless landscape.

Specimens.--WBS Eggs, Stockton (9 mi. N), 13 May 1900; MVZ 41031, 41032, 41037 ♀♀, Stockton, 4 September 1920; MVZ 41029, 41030, 41033-36, 41038 ♂♂, Stockton, 5 September 1920; JRA 547, Stockton (COP), 12 November 1940; JRA 562, Stockton, 8 January 1941; UOP 128 ♂, Clements (3 mi. NE), 6 October 1963; UOP 129 ♀, Clements (3 mi. NE), 6 October 1963.

Family Hirundinidae

TREE SWALLOW-Iridoprocne bicolor (Vieillot)

Status.--Common summer. Very common migrant. Uncommon winter.

Habitat and Distribution.--In early March it appears in loose flocks some of which move on, others of which remain to nest. Migrating individuals or groups continue to pass through into April, while nesting is underway among resident birds. The species is definitely attracted to water, where it is most often seen skimming just above the surface of a pond or slough. As young birds come off the nests and begin to feed on their own, small flocks of adults and young begin to develop. During August and September mixed swallow flocks aggregate, gaining birds from adjacent areas until a very high population has developed. There is a diurnal

dispersal of fall flocks into the countryside, and a regathering each evening. It is an amazing sight to stand near one of these evening gathering stations. The tule burms just south of Venice Island provide one such sleeping area. As late afternoon approaches an increase in numbers of swallows can be noted from some vantage place such as the west levee road on Empire Tract. The first birds come in almost imperceptibly, spending much time circling and feeding. As dusk approaches, the incoming birds are more definitive in direction and movement, so that by sunset a constant flow of Barn, Cliff and Tree Swallows is passing by, flying low over the ground directly toward the roost. In one two-minute period, 185 birds were counted crossing a one-quarter mile stretch of levee road (WJG, JLT). Surely the flight that evening, 3 October 1963, began earlier, but we know it occurred at nearly the rate mentioned for about one hour. The birds were coming toward the resting area mostly from the east along a front of at least one mile. The derived total of more than 5000 swallows crossing this one-quarter mile of road would not be greater than my estimate for that period. In about the same situation on two other occasions similar performances were observed in 1962 (ESM, RRJ, JLT). A similar migratory or premigratory group has been reported at the South Oxidation Pond (DeBenedictis and Chase, 1964:71), and no doubt they occur elsewhere about the county. Such activity is most apparent just before migration, and one day in October the huge flocks will have disappeared, not to be found anywhere about the county.

From then until mid-November small groups of these species will be seen traveling low over the water or land, very intent upon some goal to the south. Winter groups of Tree Swallows are sometimes encountered throughout the winter, always near water. While these winter birds spend some time circling and feeding, they often appear hurried and quick to move on.

Nesting.--Nests built in natural cavities and crevices in buildings, trees (especially old woodpecker holes), amongst machinery, and nest boxes if located near water. The nest is of sticks, roots, grasses, hair, and always a compliment of white material, usually feathers. Eggs four or five, during April and May.

Specimens.--WBS Eggs, Stockton (7 mi. NW), 23 May 1922; MVZ 22909, Tracy Lake, 29 March 1912; MVZ 41096-99, Stockton, 5 September 1920; USNM 76554 ♂, Stockton, 15 October 1878; USNM 76555 ♀, Stockton, 15 October 1878; USNM 76656, 76657, Stockton, 15 October 1878; USNM 76658 ♂, Stockton, 12 October 1878; UOP 131 ♂, Empire Tract, 2 October 1963; UOP 223, Empire Tract, 13 September 1963.

ROUGH-WINGED SWALLOW-Stelgidopteryx ruficollis serripennis (Audubon)

Status.--Uncommon summer.

Earliest Spring Date.--22 April 1947.

Latest Fall Date.--3 October 1963.

Habitat and Distribution.--A few spring records, dispersed all about the county. Nesting records limited. Fall records more common, but still in small numbers. Sometimes mixed with Tree, Barn and

Cliff Swallows in migration, making identification difficult and estimates of numbers uncertain. Not restricted to the vicinity of water as are other swallows, but finds such places acceptable.

Nesting.--Two nest records; 11 June 1948, Forest Lake, "nesting" (JRA); 27 May 1939, Mokelumne River, nest in cut bank with six unfeathered young (JG). Also one sight record for 2 June 1946 at Woodbridge (VRJ, AE). A small amount of nesting material is placed in a natural crevice or animal burrow in a cut bank. Not colonial; seldom more than one or two nests being found in the same locality.

BARN SWALLOW-Hirundo rustica erythrogaster Boddaert

Status.--Common summer. More common in fall premigratory concentrations.

Earliest Spring Date.--1 March 1940.

Latest Fall Date.--27 October 1940.

Habitat and Distribution.--Distribution somewhat determined by the presence of water over which foraging occurs and near which mud of the right consistency for nesting material can be gathered. Generally distributed about the county, limited as above by arid foothills on east and west. Fall gathering pronounced (see Tree Swallow).

Nesting.--Rivals the Cliff Swallow in abundance as a nesting bird. Nest is of mud, plant materials and feathers, located in a semi-supported position so that the top of the structure comes very close to the roof of the site within which it is located. Most often in buildings, under steel bridges, amongst parts of machinery or in natural

crevices of rocks or trees which provide a vertical surface and roof. Eggs four or five, deposited in early May. Renesting occurs. Not truely colonial although several nests may occur in a favored locality.

Specimens.--SJDC 71 ♂, Stockton (8 mi. N), 30 June 1947; MVZ 41095, Stockton, 5 September --; JRA 756, Stockton (8 mi. N), eggs and nest; CAS Eggs 4056 (3), near Stockton, 16 June 1894; WBS Eggs, 23 sets from 7 mi. NW and 8 mi. NW Stockton, 14 April 1940 to 28 May 1922 (1920-1940); UOP 134 ♂, Empire Tract, 4 April 1963.

CLIFF SWALLOW-Petrochelidon pyrrhonota pyrrhonota (Vieillot)

Status.--Very common summer.

Earliest Spring Date.--7 March 1947.

Latest Fall Date.--6 September 1878 (Belding, 1879:408).

Habitat and Distribution.--Distributed throughout the county. Somewhat limited by the presence of water, seemingly only because of the need for mud in nest building. Seen commonly foraging about and over water, but does not require it for feeding habitat. As a result it occurs more widely than the Barn Swallow, being found commonly in the inner coast range and parts of the foothills where it is too dry for the Barn Swallow.

Nesting.--I doubt if there is one single bridge in San Joaquin County which in mid-summer does not have Cliff Swallow nests tightly fastened to its undersides. Also favors rock ledges and stream cut banks (of rock), sides of buildings and other vertical surfaces. Large colonies sometimes form,

with nests located directly adjacent to one another. Eggs four to five, laid in April or May.

Specimens.--MVZ 41093, 41094, Stockton, 5 September 1920; JRA 807, Stockton, 24 April 1950; WBS Eggs, 14 sets from Stockton (9 mi. NW), 18 and 24 May 1924; UOP 136 ♀, Stockton (5 mi. N), 1 March 1963.

PURPLE MARTIN-Progne subis subis (Linnaeus)

Status.--Rare migrant. Previously more common migrant and common summer resident.

Habitat and Distribution.--One recent migration record: 1 May 1948, Kettleman, three birds seen flying morthwest (JG). When Belding first came to Stockton (1879:408), the species was "common or even abundant." He observed that his definition of abundance was applicable only near the breeding colony, for the birds were "seldom seen in the surrounding country." He recorded arrival and departure dates of early March and mid-September. The colony, apparently on the old courthouse (ML, TB), was still present in 1886 (Belding, 1890:183) and in 1895 (WBS, see specimens). When Sampson took the egg set, he recorded that the nest was in a "hole in a brick building." I find no records for the colony after this date. This species and the Lesser Nighthawk, both dwellers about habitation and both insect eaters, are seldom seen today.

Nesting.--Nests in colonies, either in colonial bird houses, or about large buildings. Structures with decorative work provide the necessary small crevices in which the plant scraps, grasses and feathers are placed. In the natural state it probably

utilized nest holes in trees and rock faces. In the eastern United States its presence was encouraged by the Indians who hung out gourds on a line for nesting. The birds acted as watchdogs and perhaps reduced the numbers of insect pests in the immediate vicinity of camp. This practice was not followed by the central valley Miwok, who were not noted for their highly advanced culture, nor is it followed by the present day residents of California.

Specimens.--WBS Eggs, Stockton, 3 June 1895.

Family Corvidae

STELLER'S JAY-Cyanocitta stelleri frontalis (Ridgway)

Status.--Uncommon winter.

Habitat and Distribution.--When seen in the valley or foothills, it is usually restricted to oak groves and river bottoms. Occasionally a lone bird will be found, but small flocks are more common. One or two records appear every few years. An invasion occurred during the winter of 1900-1901 when hundreds of birds were seen in the Central Valley (Tyler, 1913:66). This vertical movement out of the Sierras was recorded in San Joaquin County by Sampson (1901a:37). The recorded specimen was collected by Grinnell at this time.

Specimens.--MVZ 33673 ♀ , Stockton, 15 February 1901.

The specimen is of the above named subspecies which normally breeds in the Sierras and north-westward. The coast Steller's Jay, C. stelleri carbonacea Grinnell, breeds in the coast range from San Francisco Bay to Monterey County, possibly breeding in some of the juniper and oak-lined canyons in the high southwest corner of the county. A Stockton resident

who hunts deer in the Mitchell Ravine area has reported Steller's Jays there in late summer and fall (ML). They are almost certainly C. stelleri carbonacea.

SCRUB JAY-Aphelocoma coerulescens superciliosa (Strickland)

Status.--Common permanent.

There seems to be an increment in the winter population, especially in the eastern foothills.

Habitat and Distribution.--Most common in the Sierra foothills, but generally distributed across the county in oak groves and river bottoms. Inhabits cities and towns as well as trees and bushes about farmyards. Albino Scrub Jays appear with marked regularity in this area. Several have been reported in the Stockton Record (14 August 1956, 11 August 1956, 4 May 1964).

Micke Grove Zoo has had four over a period of several years, one of which is now in the University of the Pacific collection. Two other albino specimens have been prepared (see specimens).

Nesting.--Five eggs are laid from mid-April through June, with most nests in May. An early nest near Bellota held five eggs on 30 March.

Specimens.--SJDC 136, Woodbridge (3 mi. N), 3 December 1938; SJDC 131, Stockton College campus, 23 October 1940; CAS Eggs 4877 (5), vicinity of Stockton, 7 April 1917; MVZ 22740-22742, Tracy Lake, 27, 29, 30 March 1912; MVZ 54610 ♂, Linden, 22 April 1930; MVZ 60214, Lodi, 26 May 1932 (albino); JRA 828 ♂, Stockton, 25 May 1951 (albino); JRA 884 ♀, Stockton, 6 July 1960; MVZ Eggs (5), Stockton (8 mi. NE),

17 April 1920; WBS Eggs, 33 sets, 30 March 1947 to 28 May 1922 (1895-1947), Stockton and Bellota areas; UOP 123 ♀, Stockton, 13 September 1963; UOP 124 ♂, Stockton, 5/11/55; UOP 125, Stockton (UOP), 4 April 1964; UOP 126, Lodi area, --.

The breeding bird in this area is A. coerulescens superciliosa. Two other subspecies are also represented by specimens, A. coerulescens californica (Vigors), and A. coerulescens immanis Grinnell. The specimens of A. coerulescens californica were collected in late March at Tracy Lake (MVZ 22740-22742), and A. coerulescens immanis, a subspecies resident in parts of Washington and Oregon, was found here in late April 1930 (MVZ 54610). This specimen was not recorded in Grinnell and Miller (1944) and its identity may be doubtful. It was preserved as a skeleton so is not subject to reidentification.

YELLOW-BILLED MAGPIE-Pica nuttalli (Audubon)

Status.--Locally common permanent.

Habitat and Distribution.--Scattered oaks and riparian woodlands in the midst of open rolling foothills or on the valley floor. In winter often encountered about wooded ponds with eucalyptus and willow providing roosting sites.

Nesting.--Colonial, but probably only as a result of localization of preferred habitat. The nest, typically a canopied aggregation of sticks with a mud lining, is built in late March. Full sets of six or seven eggs are found from late March and early April through the beginning of May. Notable nesting colonies presently known include: north of San Joaquin City (approximately 100 pairs); west of

Dry Creek Bridge on J10 (numbers not recorded); 4 mi. NE Bellota (from 1919 to present, as high as 200 pairs). There are also numerous colonies of small size scattered about.

Specimens.--MVZ Eggs 9439 (6), near Stockton, 18 April 1919; MVZ Eggs 9446 (7), Bellota (4 mi. NE), 9 April 1922; CAS 59164 ♀, near Stockton, 17 October 1895; JRA 831, Lockeford, 17 December 1951; SJDC 104 ♂, Lockeford area, 5/1/41; JGT Eggs 548, 552, Bellota, 10 April 1932; JGT Eggs 120, near Bellota, 12 April 1919; JGT 213, near Jenny Lind, 30 March 1920; WBS Eggs, 76 sets, 29 March 1931 to 22 April 1928 (1921-1931).

COMMON RAVEN-Corvus corax sinuatus Wagler

Status.--Locally fairly common permanent.

Habitat and Distribution.--Mostly confined to the inner coast range, where it is encountered very frequently. Also records from the valley in winter and spring. Prefers large tracts of open grassland for foraging.

Nesting.--Nest located in an appropriate cranny on the open face of a cliff. Built of a mass of large twigs. Nests recorded from Corral Hollow only (VRJ). No data for nest building or contents available.

COMMON CROW-Corvus brachyrhynchos hesperis Ridgway

Status.--Common permanent.

Habitat and Distribution.--In summer dispersed over the valley and Sierra foothills wherever open land with occasional trees is found. Not often found in the inner coast range. In the fall they gather into flocks with the population being augmented

by migrants and winter visitors. Communal roosting areas develop, which may hold several hundred crows. The roost is usually a grove of oaks or willows, often near water. Local "sportsmen" occasionally hold crow shoots at these times. The North Pond on Venice Island provided such a roost for many years, but was "shot out" in January of 1957. Crows have been seen to gather there in 1962 and 1963, but not nearly in the numbers previously reported (JLT, ESM). Very large flocks are seen repeatedly some years. On 27 December 1947 "great flocks of hundreds of birds" were noted (JRA). Also during January and February of that year large flocks were seen (JRA).

Nesting.--Nest in outer limbs of a large tree. Typical dates: 30 April 1933, five young; 7 May 1933, three young just hatched; 13 May 1933, four eggs slightly incubated; 7 April 1934, three fresh eggs; 18 April 1937, five eggs slightly incubated; 13 May 1939, two feathered young; 10 June 1933, three young, two rotten eggs.

Specimens.--SJDC 142 ♂, SW of Lodi, 9 March 1949; SJDC 82 ♂, Stockton, 17 September 1941; WBS Eggs (4), Union Island, 12 April 1896; JRA 530 ♂, Stockton, 11 December 1939; USNM 76597, Stockton, - November 1878; WBS Eggs (5), Stockton (5 mi. N), 10 April 1898 (2 sets); UOP 120 ♀ imm., Venice Island, 3 May 1963.

Family Paridae

PLAIN TITMOUSE-Parus inornatus inornatus Gambel

Status.--Common permanent.

Habitat and Distribution.--Most common in the Sierra foothills and along the rivers extending into the valley. Prefers open groves of oaks and riparian

woodlands. Not bothered by presence of habitation as long as scattered large trees and some shrubbery are present. Follows trees along streams into the dry inner coast range.

Nesting.--The nest is commonly in a cavity in a tree. Typical nest records: 9 April 1895, nest in a hole in an oak, 10 feet above the ground, made of fine grasses and horse hair, four eggs; 10 April 1898, nest of grass and feathers in a rotten stump, five feet off the ground, eggs. Horse hair is probably less often used than previously.

Specimens.--WBS Eggs (4), Stockton (Weber's Field), 9 April 1895; WBS Eggs, Stockton (Smith Ranch), 10 April 1898; WBS Eggs, Bellota (Bellota Grove), 16 April 1922; MVZ 19694, 19695, Tracy, 11 March 1911; USNM 74256 ♂, Stockton, 17 April 1878; USNM 74257 ♀, Stockton, 9 April 1878; UOP 109 ♀ ?, Lodi (Adams Farm, 8 mi. NE), 22 September 1963.

COMMON BUSHTIT-Psaltriparus minimus californicus Ridgway

Status.--Common permanent.

Habitat and Distribution.--Most often found in oak groves, or riparian woods. Quite agreeable to living in town if evergreen trees and shrubs are present. Follows riparian woods into coast range.

Nesting.--Nest is pendant from the outer branches of a valley oak (cork oak on UOP campus) or other evergreen shrub or tree. Representative nest records: 6 February 1950, pair looking over oak; 25 March 1948, several completed nests, one eight feet high in a clump of mistletoe; 1 April 1964, pair inspecting cork oak, 10 April building nest, seen about nest daily, 29 April, five young in nearby tree, 2 May,

five young being fed nearby; 22 May 1948, nest and young. They often use the nest throughout the winter as a roosting site, and may occasionally be seen at work repairing a nest in mid-winter.

Specimens.--WBS Eggs (6), near Stockton, 16 June 1894; WBS Eggs, Stockton (8 mi. NW), 2 April 1939; WBS Eggs, Stockton (6 mi. S), 8 April 1928; WBS Eggs, Stockton (9 mi. NW), 11 April 1926; WBS Eggs, Stockton (9 mi. NW), 13 April 1924; MVZ 23064-23066, Tracy Lake, 29 March 1912; USNM 74433 ♀, Stockton, 8 May 1878; UOP 108, Stockton, 13 September 1963.

The range of P. minimus minimus extends along the inner coast range, probably into the southwest corner of the county (Grinnell and Miller, 1944:312-313). There are no specimens from this area.

Family Sittidae

WHITE-BREASTED NUTHATCH-Sitta carolinensis aculeata Cassin

Status.--Common permanent.

Habitat and Distribution.--Prefers open groves and scattered oaks of foothills. A few birds are seen in the valley in similar habitat all summer, more commonly in winter. Belding (1879:401) found them "quite common in the deciduous oaks near Stockton in May and the first week in June, 1878." He interpreted their presence to mean that they were nesting birds.

Nesting.--Commonly in the foothills, in smaller numbers in the valley. Nesting on the valley floor has not been reported (Grinnell and Miller, 1944:316). The reference by Belding (1879:401) refers to this (as above), as well as do other records: 11 April 1920,

five miles south of Stockton, nest with eggs (WBS); 13 November 1962, Lodi (8 mi. NE), many birds in oak grove, adults and young of the year (JLT); 12 May 1962, Caswell State Park, pair clearing debris from the rotten stub of a limb (EPE). Nest is in a natural cavity or an old woodpecker hole in a tree.

Specimens.--WBS Eggs, Stockton (20 mi. E), 28 April 1935; WBS Eggs, Bellota (5 mi. E), 2 April 1933; WBS Eggs, Stockton (5 mi. S), 11 April 1920; MVZ 19690, Tracy, 11 March 1911; USNM 76258 ♂, Stockton, 9 April 1878; UOP 118 ♀, Lodi (Adams place, 8 mi. NE), 22 September 1963; UOP 117, Empire Tract, 13 September 1963.

RED-BREASTED NUTHATCH-Sitta canadensis Linnaeus

Status.--Fairly common winter.

Earliest Fall Date.--6 September 1961.

Latest Spring Date.--19 May 1964.

Habitat and Distribution.--Distributed across the county when present. Shows preference for evergreens, especially larger trees. Also found foraging on oaks, sycamores, and willows.

Specimens.--USNM 76548 ♀, Stockton, 5 November 1878.

Family Certhiidae

BROWN CREEPER-Certhia familiaris Linnaeus

Status.--Uncommon winter.

Habitat and Distribution.--When present it has been found foraging on the trunks and larger limbs of valley oaks, willows and cottonwoods. Records include: 19 March 1948, one bird at COP (JRA, JG, VRJ); 18 December 1963, Caswell State Park, one bird (VRJ, AE); 20 February 1964, Oak Park, Stockton, seven or more birds feeding throughout the day

(GWC, JLT, DJT); 20 April 1964, Oak Park, Stockton, one bird (WJG). Unfortunately we did not visit Oak Park between the above recorded sightings in 1964. Belding (1879:402) recorded two on 27 October 1878.

Specimens.--UOP 110 ♂, Stockton (Oak Park), 20 February 1964.

Family Chamaeidae

WRENTIT-Chamaea fasciata henshawi Ridgway

Status.--Fairly common permanent.

Habitat and Distribution.--Chaparral of the foothills to the east and west. Riparian willow jungle and lowland brush of the valley. Becomes more common as one travels from the center of the county either east or west. It has not been recorded from the area west of San Joaquin City, Stockton and Woodbridge, and east of Corral Hollow.

Nesting.--There are no data available, although it surely nests here.

Specimens.--MVZ 23111, 23112, Tracy Lake, 29 March 1912; JRA 542, 548 ♀♀, Woodbridge, 26 October 1940; USNM 74253 ♀, Stockton, 13 April 1878; USNM 74254 ♂, Stockton, 2 April 1878; USNM 74255 ♂, Stockton, 30 March 1878.

The two specimens in the Museum of Vertebrate Zoology are C. fasciata henshawi. It is quite probable that the birds observed in Corral Hollow are C. fasciata intermedia Grinnell, but no specimens exist.

Family Troglodytidae

HOUSE WREN-Troglodytes aedon parkmanii Audubon

Status.--Uncommon summer. Fairly common migrant.

Rare winter.

Habitat and Distribution.--Low shrubs and trees about towns, in riparian woodlands and willow jungles during migration and winter. More restricted to shrubs, low trees and willow tangles in summer. Encountered in chaparral of both foothills and in the valley in suitable habitat. Many spring and fall records, reaching a maximum in late April and May, and September. Winter records: 3 January 1941, Mokelumne River, and 18 January 1942, Kettleman (JRA); 10 November 1945, Stockton, three birds (VRJ).

Nesting.--One record only: 10 June 1950, Arno Marshes, four birds with young out of the nest (JRA). Also presence of the species at such places as Caswell State Park during the summer suggests breeding birds.

Specimens.--USNM 76543 juv., Stockton, 3 June 1878; USNM 76544 juv., Stockton, 28 October 1878.

WINTER WREN-Troglodytes troglodytes (Linnaeus)

Status.--Rare migrant and winter.

Three records: 21 November 1941, one bird recorded between Stockton and Thornton (JRA); December 1961, Stockton, one bird observed four times over a two-week period in a backyard (VRJ, AE); 26 September 1962, one bird heard in Stockton. E. S. Morton heard this last bird singing several times from his window very early on the morning of 26 September. Investigation in the neighborhood did not reveal the bird. Morton is quite familiar with the song of this bird, having known it in Ohio.

BEWICK'S WREN-Thryomanes bewickii drymoecus Oberholser

Status.--Common permanent.

Habitat and Distribution.--Found everywhere within the county in preferred habitat. In the Sierra foothills found in chaparral, or in willow and shrubs about water. Enters the valley freely, being found most often about low riparian growth, in edge situations produced by human habitations, and in willow-raspberry tangles.

Nesting.--Known to nest in all of the above named situations. The song is heard all year. Actual nesting records lacking: 28 April 1940, four well grown young (JRA).

Specimens.--USNM 76542, Stockton, 8 May 1877.

LONG-BILLED MARSH WREN-Telmatodytes palustris aestuarinus Swarth

Status.--Common permanent.

Habitat and Distribution.--Anywhere in county where dense cattails or tules grow. Even recorded at a tiny pond in Corral Hollow, 8 December 1963, with no other tules or even water for over a mile (JLT, DJT). Once abundant when tules covered more than one-fourth of the county.

Nesting.--The male of a pair typically builds several nests of plant material among the tules, but only one is used for nesting. Some nest records are: 3 February 1947, Kettleman Place, singing; 16 April 1948, Kettleman Place, building nest; 25 April 1947, Arno, several nests and eggs, 11 May, some have hatched, some with eggs; 6 June 1947, Kettleman Place, some with eggs; 17 June 1933, three eggs ready to hatch.

Specimens.--WBS Eggs, Stockton and vicinity, 40 sets, 5 May 1929 to 6 June 1946 (1895-1947);

JRA 741 (5), Kettleman Ranch, 6 June 1947; USNM 74432, Stockton, -June 1878; USNM 76545 juv., Stockton, 29 September 1878; UOP 104 ♀, Bacon Island, 26 November 1963.

CANON WREN-Catherpes mexicanus conspersus Ridgway

Status.--Uncommon, probably permanent. May well be more common in preferred areas than records indicate.

Habitat and Distribution.--Recorded from the southwest corner of the county only. Four records: 10 March 1946, 16 March 1947, 19 April 1947, 21 April 1947, all for Corral Hollow (VRJ, AE). Prefers steep rock faces with talus at base, often near water.

ROCK WREN-Salpinctes obsoletus obsoletus (Say)

Status.--Common permanent.

Habitat and Distribution.--Found in the Sierra foothills and inner coast range in fair numbers where rocky ground occurs. Some vegetation, usually open rocky grassland is typical. In fall or winter occasionally seen in the valley (see specimens).

Nesting.--Few records: 13 April 1946, Corral Hollow, bird with nesting material; 19 April 1947, Corral Hollow, two adults and three young, adults feeding grasshoppers to young.

Specimens.--JRA 535 ♂, Stockton (7 mi. N), 6 September 1940.

Family Mimidae

MOCKINGBIRD-Mimus polyglottos leucopterus (Vigors)

Status.--Common permanent.

Habitat and Distribution.--Most common in residential areas. Also found in orchards, near

shrubs and small trees, or wherever dense foliage is interspersed with lawn or other open areas. The winter population seems to be smaller than the summer, but this is mostly due to the more conspicuous nature of the bird in summer.

Nesting.--In 1947 Verna Johnston noted the imitations of other animal sounds that formed part of the vocabulary of two Mockingbirds. These included: Killdeer, "jacob-jacob" of the Acorn Woodpecker, "wicka-wicka" of the flicker, yellowlegs, Scrub Jay, kingfisher, Western Bluebird, Plain Titmouse, spring peepers (Hyla), and the Cedar Waxwing. All of this "interspersed with mellow notes and high and low buzzes of its own derivation." Such renderings are first noted each year during mid-March. The nest is usually well hidden in a dense or wiry shrub or tree. Many records, some typical ones being: 24 March 1952, first song of the year; 11 April 1947, half finished nest in cherry tree, 30 April 1947, three young; 24 April 1942, Baldwin and Lang Ranch, nest with one egg; 17 May 1947, Stockton, nest with two young, two eggs; 17 May 1964, University of the Pacific, adults feeding four young off the nest. Some records of a nest built atop a piece of wood in the midst of a wisteria vine include: 3-16 May 1963, bird seen incubating daily, only one bird seeming to incubate, other seldom seen; 16 May feeding young, both parents involved; 21 May, young very evident, being fed insects.

Specimens.--SJDC 139, Stockton, 15 November 1940; WBS Eggs, eleven sets, Tracy and Stockton vicinity, 9 April 1939 to 15 May 1937 (1923-1943).

CATBIRD-Dumetella carolinensis (Linnaeus)

Status.--Accidental winter.

One record, the second for California. The bird was first identified by Mrs. Ethel Willits in the backyard of Mrs. David Kroll, both of Lodi, on 2 January 1954. It was subsequently seen daily for extended periods until 9 January. Verna Johnston and Amber Ellis confirmed this identification on 5 and 9 January. Willits, Johnston and Ellis had each seen the species repeatedly in the eastern United States, so were familiar with it. The Catbird fed on the ground under an apricot and an alder, with excursions out onto the lawn. It also frequented an adjacent yard. This record has been submitted to the Condor (VRJ: see Brown Thrasher below).

BROWN THRASHER-Toxostoma rufum (Linnaeus)

Status.--Accidental winter.

During the same season that the Catbird was seen, an adult Brown Thrasher was also observed in the backyard of Mrs. David Kroll of Lodi. Mrs. Kroll first recorded it on 27 November, and again on 28 December 1953. It was then observed steadily for extended periods from 1-9 January by Mrs. Willits and Mrs. Kroll. On 3 January a letter was sent to Dr. Arnold by Mrs. Kroll telling him of the find. Verna Johnston and Amber Ellis went to Lodi on 5 January 1954, obtaining excellent views of the birds (Catbird and Brown Thrasher), recording plumage and coloration in detail and confirming the identifications. After checking references and descriptions, Johnston and Ellis returned on 9 January and saw the birds again. Neither bird was recorded after this date.

Johnston, Ellis and Willits were familiar with the species from experiences in the eastern United States. The thrasher spent most of its time scratching in the leaves under an apricot and an alder. It usually retired about 4:00 P. M. to trees across the alley, remaining plainly in view. The above mentioned letter to Dr. Arnold is now deposited with the field notes of Verna Johnston. From this most of the recorded information was obtained. The record has been reported to the Condor (VRJ:MS).

The subspecies which ranges nearest to this locality is T. r. longicauda (Baird).

CALIFORNIA THRASHER-Toxostoma redivivum redivivum (Gambel)
Toxostoma redivivum sonomae Grinnell

Status.--Fairly common permanent.

Habitat and Distribution.--Distribution of dense ground cover seems to limit the distribution of this species. Found in chaparral in the inner coast range, and from Bellota north. Enters the valley, following the courses of the east-west rivers, there occurring in dense berry and willow thickets. Found in isolated patches of similar vegetation also.

Food is obtained by digging through the ground litter searching for invertebrate life. In Corral Hollow an adult was watched catching yellow jackets which were sitting on the rocks at the edge of a muddy water-hole. This was accomplished by hopping directly toward the insect and striking suddenly with its bill. The fallen insect was quickly snatched up and killed by beating it against a rock (JLT, DJT).

Nesting.--Nests have been found near Bellota, (10 April 1927, 20 April 1924) and in Corral Hollow, (2 May 1937). Singing occurs throughout the year but becomes more frequent in March.

Specimens.--WBS Eggs, Bellota (1 mi. E), 10 April 1927; WBS Eggs, Bellota (1/2 mi. E), 20 April 1924.

Family Turdidae

ROBIN-Turdus migratorius propinquus (Ridgway)

Status.--Very common to common permanent.

Habitat and Distribution.--Very common in town during winter, only slightly less so in summer. Impressive numbers sometimes invade an area for a few days in winter, largely in relation to distant weather conditions. To give an idea of one such influx of birds, I have quoted a section from Verna Johnston's field notes.

> Feb. 14/40 Victory Park, Stockton 5-6 P.M. Robins everywhere, on lawn feeding, all over trees, and hordes just coming in at 5:10.... Birds number in thousands, having stained tree leaves and ground beneath white with their droppings. I counted all that I could in hundreds and gave up.

In milder winters, large populations feed and roost in select situations, usually where there are scattered trees and expanses of low ground vegetation. Almost completely lacking some years, as in 1962-1963 when few Robins were seen. Found frequently throughout the year in cities and towns, about orchards, and in oak groves in the foothills. Food varied, including berries and dates in winter.

Nesting.--Although some singing is heard all year, it increases from February to late summer. For nesting it prefers large deciduous trees, building a nest of vegetation and mud. Representative nesting data: 15 March 1964, University of the Pacific, nest building; 16 April 1937, north Stockton, four eggs very slightly incubated; 25 April 1947, University of the Pacific, two nests in a sycamore, four eggs each; 11 May 1947, University of the Pacific and Arno Marshes, young in many nests.

Specimens.--SJDC 184, COP campus, May 1952; SJDC 110 ♂, Stockton, 11 December 1939; SJDC 132 ♀ imm., Stockton, 8/10/48; MVZ 19709, 19710, Tracy, 9 March 1911; JRA 528 ♀, Stockton, 11 December 1939; JRA 760 ♀ imm., Woodbridge, 31 July 1948; UOP 171 ♂, Stockton (UOP), 20 February 1962; UOP 172 ♂, Stockton (UOP), 4 February 1962.

VARIED THRUSH-Ixoreus naevius meruloides (Swainson)

Status.--Uncommon winter.

Earliest Fall Date.--4 November 1961.

Latest Spring Date.--14 March 1949.

Habitat and Distribution.--When encountered, often with Robins. Prefers similar habitats. Seen occasionally nearly every winter except the mildest ones. Occurrences away from parks and lawns of cities are few, but include grassy roadsides, pastures, stream banks. Belding (1879:395) seems to have found it more common, and sets dates of "middle of November" and "March or April" for it.

Specimens.--USNM 76533 ♀, Stockton, 8 November 1878; USNM 76534 ♂, Stockton, 8 November 1878; UOP 173 ♂, Stockton, about 28 January 1964.

HERMIT THRUSH-Hylocichla guttata (Pallas)

Status.--Fairly common winter.

Earliest Fall Date.--22 September 1963.

Latest Spring Date.--28 April 1940.

Belding (1879:396) reports this thrush very late in the spring (8 June 1878, 30 May 1878-specimen) and supposed it to be a permanent resident. Both of these records seem very unusual at present and are open to careful scrutiny. The specimen has not been reexamined by the author. In a later comment (Belding, 1890:254) he refers to a departure date of 25 April, indicating he had probably changed his mind about its summer residence in this area. It seems possible that the June sight record and perhaps the specimen are referable to H. ustulata.

Habitat and Distribution.--In towns, found in backyard situations. Bushes, scattered trees and low ground vegetation are requisites. Found in similar situations at edges of streams, oak groves, and in chaparral in foothills. Generally distributed across the county in preferred habitat.

Specimens.--SJDC 879 ♀ , Stockton, 30 September 1959; MVZ 23152, Tracy Lake, 27 March 1912 (H. guttata guttata); MVZ 93025, Corral Hollow (5 mi. SW), 19 February 1945 (San Joaquin County ?); JRA 555, Stockton, - November --; USNM 76536 ♀ , Stockton, 30 May 1878.

SWAINSON'S THRUSH-Hylocichla ustulata ustulata (Nuttall)

Status.--Uncommon summer.

Earliest Spring Date.--4 May 1948.

Latest Fall Date.--12 October 1940.

Habitat and Distribution.--Prefers dense shaded thickets of willow, blackberry tangle, and small trees as found along riparian woodlands and near certain ponds and sloughs. During migration found in bushes and dense flower beds in cities. There are no records for the inner coast range or the Sierra foothills.

Nesting.--No data available. Songs heard 10-14 May 1963 were feeble, incomplete; on 22 May 1948 and 24 June 1948 near Lockeford, in full song near river banks.

Specimens.--JRA 539 ♀, Stockton (7 mi. N), 12 October 1940.

WESTERN BLUEBIRD-Sialia mexicana occidentalis Townsend

Status.--Common permanent.

Habitat and Distribution.--Shows preference for open oak groves in the valley and foothills. Found wherever there are scattered trees and open areas. Recorded during all months widely distributed about the county.

Nesting.--Few actual records, although it is a common nesting bird. These are: 9 April 1933, McDade Ranch, nest with five eggs, fresh; 28 April 1950, Mokelumne River, pair seen; 3 May 1947, San Joaquin City, nest in hole in oak; 6 May 1900, Cosumnes River mouth, nest of chips in an old woodpecker hole located 10 feet from the ground; 7 May 1922, Stockton (7 mi. NW), six eggs.

Specimens.--JGT Eggs (6), Stockton (7 mi. NW), 7 May 1922; WBS Eggs, mouth of Cosumnes River, 6 May 1900; UOP 177, Lodi (Adams farm, 8 mi. NE), 22 September 1962.

MOUNTAIN BLUEBIRD-Sialia currucoides (Bechstein)

Status.--Uncommon winter.

Earliest Fall Date.--28 October 1878 (Belding, 1879:398).

Latest Spring Date.--25 March 1948.

Habitat and Distribution.--Found in cut grain or newly plowed fields. Perches on fence wires or telephone lines near such habitats. Widely distributed in preferred habitat but not recorded from inner coast range. There are records for this bird for all but the mildest winters.

Specimens.--SJDC 119 ♂, Stockton (9 mi. SW), 16 February 1941; MVZ 62723 ♀, Stockton, 15 November 1932; CAS 59431 ♂, Stockton, 6 February 1897; USNM 76539 ♀, Stockton, 28 October 1878; UCP 229, Farmington (4 mi. W), 3 January 1964.

Family Sylviidae

BLUE-GRAY GNATCATCHER-Polioptila caerulea amoenissima Grinnell

Status.--Uncommon migrant. Rare winter.

Habitat and Distribution.--Somewhat inadequate records show this bird to migrate in at least fair numbers in April and May, and August and September. Two winter records are available: 5 December 1941, Stockton (JRA); 20 February 1964, Oak Park, Stockton, (GWC). It is possible that some birds breed in the open oak groves in the southwest corner and the northeast corner of the county. There are no breeding records, however.

Specimens.--USNM 76546 ♂, Stockton, 23 March 1878.

GOLDEN-CROWNED KINGLET-Regulus satrapa olivaceus Baird

Status.--Rare winter. Small groups of birds

are the rule, usually mixed in with Ruby-crowned Kinglets.

Earliest Fall Date.--10 October 1960.

Latest Spring Date.--4 March 1953.

Habitat and Distribution.--Most often found in groups with Ruby-crowned Kinglets, visiting the same habitats.

Specimens.--JRA 864, north of Stockton, 14 December 1958; USNM 73535 ♂, Stockton, --1877; USNM 76540 ♂, Stockton, 28 October 1878; USNM 76541 ♂, Stockton. - November 1878.

RUBY-CROWNED KINGLET-Regulus calendula cineraceus Grinnell

Status.--Fairly common winter.

Earliest Fall Date.--3 October 1878 (Belding, 1879:399).

Latest Spring Date.--25 April 1941.

Habitat and Distribution.--Generally distributed in trees and shrubs of almost any variety. Shows a preference for cool damp vegetation.

Specimens.--MVZ 19703, Tracy, 11 March 1911; JRA 568 ♀, Stockton, 21 April 1941; UOP 163 ♂, Stockton (Venice Island), 11 February 1964; UOP 166 ♀, Farmington (1 mi. W), 9 November 1963.

Family Motacillidae

WATER PIPIT-Anthus spinoletta pacificus Todd

Status.--Very common winter.

Earliest Fall Date.--18 September 1878 (Belding, 1879:403).

Latest Spring Date.--29 April 1964.

Habitat and Distribution.--Open fields, roadsides, baseball fields, or any other plot of lightly vegetated moist ground providing foraging area. Generally

distributed over the county where these conditions prevail. In Belding's time (1879:403), it normally foraged on the unpaved streets of cities and towns.

Specimens.--SJDC 130, Stockton, 1/8/41; USNM 76549, Stockton, 18 September 1878.

Family Bombycillidae

BOHEMIAN WAXWING-Bombycilla garrula pallidiceps Reichenow

Status.--Rare winter.

Can be expected with flocks of Cedar Waxwings at any time, but never can be depended upon to be there. Two records only: 21 March 1954, Stockton; winter 1938-39, College of the Pacific campus, several with Cedar Waxwings.

CEDAR WAXWING-Bombycilla cedrorum Vieillot

Status.--Common to very common winter.

Earliest Fall Date.--3 October 1947.

Latest Spring Date.--5 June 1948.

Habitat and Distribution.--In winter flocks these birds are true gypsies, wandering from one food source to another. Natural fruits and berries were once their main attraction to the valley. Now the extensive orchards, vineyards, and decorative plantings about towns and farms have brought them more regularly and probably in greater numbers. It is a common experience to have a pyracantha or toyon bush laden with berries completely stripped in a few hours by voracious flocks of waxwings and Robins. Several birds which struck windows in their excitement during feeding have been brought into the museum. As spring approaches they feed regularly on buds and flowers. One specimen taken from a Sparrow Hawk had its

entire face matted with pollen from eating flowers.

Specimens.--SJDC 147 ♀ , Lodi, 23 February 1949; JRA 749 ♀ , Lodi (1 mi. E), 2 January 1948; JRA 827 ♀ , Stockton, 25 April 1951; JRA 839 ♀ , Stockton, 15 March 1954; JRA 842 ♀ , Stockton, 1 November 1954; UOP 168 ♂, Stockton, 27 January 1964; UOP 169 ♂, Lodi, 21 April 1963; UOP 230, Stockton, 3 April 1963.

Family Ptilogonatidae

PHAINOPEPLA-Phainopepla nitens lepida Van Tyne

Status.--Uncommon winter in valley. Fairly common winter in foothills.

Habitat and Distribution.--Presence of scattered oaks with mistletoe growths largely determines its distribution. Few records for the valley in winter, all associated with oak and mistletoe. More intensive study may show that it breeds in the scattered oaks in the inner coast range or in the foothills north and east of Clements and Bellota.

Family Laniidae

LOGGERHEAD SHRIKE-Lanius ludovicianus gambeli Ridgway

Status.--Very common permanent. Lowest numbers occur in late winter.

Habitat and Distribution.--Resident throughout the county. Prefers areas where it can sit in the open above short grass or patches of bare ground, to swoop down suddenly on invertebrates or small birds or mammals.

Nesting.--"Singing" increases in late January or February. Nesting begins in late February, early March. Two nests made of sticks and grass, lined with wool were found in Corral Hollow (VRJ). Nests collected by Sampson were made variously of sticks,

straw, grass, hair and string. They ranged from 20 feet high in an oak mistletoe clump to 10 feet high in oak. Representative data are: 25 January 1949, Davis Road, "shrikes are singing"; 3 February 1947, shrike songs apparent; 11 March 1939, north of Stockton, five fresh eggs; 15 March 1933, north of Stockton, four fresh eggs; 25 March 1933, north of Stockton, nest with five eggs ready to hatch, nest with two fresh eggs; 13 April 1948, Davis Road, small young; 8 May 1942, Stockton, full grown young.

Specimens.--SJDC 129 ♀, Stockton (4 mi. N), 14 January 1941; SJDC 137 ♂, Stockton (4 mi. N), 15 January 1941; MVZ 19668, Tracy, 15 March 1911; MVZ 19735, Lathrop, 3 October 1911; MVZ Eggs 1534 (1), French Camp, 28 April 1910; CAS Eggs 5261 (6), Lodi, 7 April 1917; CAS Eggs 5263 (7), Forest Lake, 7 April 1917; WBS Eggs, Mossdale School, 18 March 1928; WBS Eggs (5), near Stockton, 21 April 1895; WBS Eggs, near Stockton, 28 March 1896; WBS Eggs, near Stockton, 3 April 1898; WBS Eggs, Manteca (10 mi. S), 31 March 1940; USNM 76577, Stockton, 1 April 1878; USNM 76578 ♂, Stockton, 9 April 1878; USNM 76579, Stockton, 8 November 1878; UOP 152 ♀, Empire Tract, 13 September 1963.

Family Sturnidae

STARLING-Sturnus vulgaris Linnaeus

Status.--Common summer. Very common winter.

Habitat and Distribution.--The first Starlings to be recorded in San Joaquin County were seen 2 January 1953 in a vineyard on Peltier Road. Jack Arnold watched seven birds circle and land among the grapevines. This simple incident occurred

quietly but was to foreshadow events of major importance to many persons in this area. Having started in New York City in 1890, the Starling had successfully reached the heart of one of California's leading agriculture areas. By February of 1957 the Department of Agriculture began reporting wintering flocks numbering in the thousands. These birds flew daily from roosts in the Delta area into adjacent pastures and fields, sometimes causing crop damage, sometimes eating cattle feed from the grain troughs set out for the animals, sometimes not even being noticed as they fed quietly on open pastures or fields. Arnold estimated on 15 February 1957 between 15,000 and 20,000 birds between Eight-mile Road and Terminous Road. He was involved in tracking these flocks to their several roosts on the Delta. One of these was near Light #3, another near Light #8 on the ship channel and a third near Empire Tract. No moves were made against these birds. On 16 May 1958, Verna Johnston recorded Starlings nesting just southwest of Lodi in Micke Grove. That nest, in a valley oak, raised two young birds. On Woodbridge Road on winter afternoons large numbers are now seen feeding and resting daily. To most observers, it has seemed that the original huge invasions have become stabilized by environmental forces, and the population brought into a sort of balance. Quite to the contrary, for on 21 January 1963 when E. S. Morton and I were counting dead waterfowl on a partially flooded field on Empire Tract on the Delta, our attention was drawn by a whispering of wings overhead, and the sound of droppings on the mud nearby. Passing

from the east, and traveling 15° south of west was a continuous line of Starlings. By counting blocks of birds passing in 15 second time intervals, and measuring the total time, we estimated that more than 3000 birds passed over us. Subsequent flocks quickly brought the total to more than 4300 birds. The following evening the same spectacle was seen from a point further east (RRJ, JLT). The direction they traveled was the same, but the estimate of numbers was more accurate. The total that night was 6300 birds. On 6 February 1963, E. P. Edwards, Morton, Johnson and I were on Bract Tract about four miles to the north. From this point, the flock was south of us, passing in the same direction, its southwest end being visible with binoculars and its northeast end passing out of sight toward the Sierras. A similar flock was sighted briefly on 20 February 1964 (JLT, DJT). Repeated articles appear in the Farm News section of the Stockton paper, most of them concerned with the damage being caused, few of them with solutions. It is quite evident that in less than fifteen years a new and important addition has been made to our avifauna. It will be of more than casual interest to many people to see how this bird is brought under control.

Nesting.--Nests in old woodpecker holes, crevices in buildings, and natural cavities in trees. Nests have been recorded from Micke Grove, Caswell State Park, and Stockton. Records can be expected from many other areas.

Specimens.--JRA 855 ♀, Stockton, 23 February 1957; UOP 231, Escalon (3 mi. E), 22 November 1963; UOP 232 ♂,

Stockton (SW side), 29 October 1963.

Family Vireonidae

HUTTON'S VIREO-Vireo huttoni huttoni Cassin

Status.--Rare (migrant?).

Only four records are known to me, all in spring and fall. They are: 22 May 1948, north of Stockton (JRA); 13 April 1946, Corral Hollow, "1 or 2, certain identification" (VRJ, AE); 28 September 1948, Rio Blanco, "observed from 10 feet, Hoffman in hand" in a willow tree (JG); 17 October 1963, Caswell State Park, (EBH). The bird is normally quite restricted to live oaks and not truly migratory (Grinnell and Miller, 1944:383). Further discussion must of necessity await additional records.

BELL'S VIREO-Vireo bellii pusillus Coues

Status.--Presently unknown. Formerly common summer.

Belding (1879:410) found this bird very common in summer in willow thickets at Stockton. There are no modern records for this species in San Joaquin County. The nearest is a specimen (MVZ 60897) secured by G. Bolander (1932:2) at the head of Corral Hollow, just inside of Alameda County. The reasons for the utter disappearance of this species are obscure, probably the best explanation being given by Grinnell and Miller (1944:389) who attribute it to an increase in Brown-headed Cowbird numbers.

Nesting.--Largely because of the relative inavailability of Belding's paper (1879), I quote a section directly.

> It arrived in Stockton about April 15, 1878, and left before September 7. It is active,

> restless, noisy or musical and does not fail to make its presence known, occasionally giving its tail a side jerk, reminding one in this respect of the small Flycatchers. When a nest is being built, the male does all the singing, the female all the work, though the former encourages the latter with its presence as well as the song.
>
> A nest taken May 28 had three eggs in it; on the 24th or 25th it had two .... When the lining of cattle hair had been placed in the nest I supposed the nest complete; the lining of down was added and finished in about an hour.

The egg set collected by Sampson was taken from a nest four feet high in a willow and was made of bark, grasses, hair, and feathers.

Specimens.--USNM 74259, 74260, 74262, Stockton, - April 1878; USNM 74444, Stockton, 18 May 1878; USNM 76563, Stockton, 11 May 1878; WBS Eggs (3), Stockton (St. Catherine's School), 9 May 1894.

SOLITARY VIREO-Vireo solitarius cassinii Xanthus

Status.--Rare spring migrant.

Habitat and Distribution.--Found on migration among the lower branches of larger trees, most frequently willows. The earliest record is 5 April 1963, Caswell State Park, the latest 13 May 1950 at the mouth of the Calaveras River. Also reported from Stockton (several records).

Specimens.--USNM 74442 ♂, Stockton, 1 May 1878.

WARBLING VIREO-Vireo gilvus swainsonii Baird

Status.--Uncommon summer. Accidental winter.

Earliest Spring Date.--27 March 1912.

Latest Fall Date.--6 October 1950.

Habitat and Distribution.--Prefers moist situations, usually being found in willows, cottonwoods or oaks along river banks. Has not been reported from the Sierra foothills or inner coast range. Records for many points on the valley floor: Calaveras River at Stockton, Kettleman Place, Mokelumne River, Stockton (1874 Jewell Court), Lockeford, Lodi, and Forest Lake. One winter record, 21 December 1941, Kettleman (JRA).

Nesting.--Records of singing birds through the summer suggest nesting probably occurs here, but there are no data. Belding (1879:409) indicated that it bred here, but did not elaborate.

Specimens.--USNM 74442 ♂, Stockton, 1 May 1878; MVZ 36980 ♀, near Lockeford, 24 April 1893; MVZ 36981 ♂, near Lodi, 20 May 1893.

Family Parulidae

ORANGE-CROWNED WARBLER-Vermivora celata (Say)

Status.--Fairly common winter.

Earliest Fall Date.--17 October 1963.

Latest Spring Date.--4 May 1963.

Habitat and Distribution.--Found in willow tangles, blackberry jungles and other densely vegetated situations along stream banks. Also in bushy situations in towns. Records from all parts of the county.

Nesting.--Indications are that V. celata lutescens may breed in the inner coast range (Grinnell and Miller, 1944:393), but there are no nest data or summer records from there, or anywhere about the county.

Specimens.--SJDC 148, Lodi, 6 March 1949; USNM 76550 ♀, Stockton, 22 April 1878; UOP 158, Stockton (2 mi. W), November 1963.

NASHVILLE WARBLER-Vermivora ruficapilla ridgwayi van Rossem

Status.--Fairly common migrant.

Habitat and Distribution.--Found in open oak groves, about cities and towns, and in open riparian woods. Generally distributed across the county.

YELLOW WARBLER-Dendroica petechia morcomi Coale

Status.--Fairly common migrant. Uncommon summer.

Earliest Spring Date.--8 April 1885 (Belding, 1890:208).

Latest Fall Date.--17 October 1963.

Habitat and Distribution.--Prefers riparian willows, cottonwoods and oaks, especially where brush provides nesting and foraging areas. In migration it is less particular, even being found in vineyards, conifers, and ivy on buildings. Records come from all parts of the county.

Nesting.--Nest is a well formed cup in low brush. Singing birds are recorded all through spring migration, and well into the summer. There are few nesting records: 3 May 1947, male singing daily in oak, acts as if nest is nearby; 11 June 1948, probable nest; 10 June 1933, Stockton (7 mi. N), two eggs ready to hatch.

Specimens.--SJDC 125 ♂, Stockton (River Drive), 23 May 1948; UOP 151 ♀, Lodi, 19 October 1963.

MYRTLE WARBLER-Dendroica coronata hooveri McGregor

Status.--Winter, probably rare.

Habitat and Distribution.--Habitat like that of the Audubon's Warbler. One specimen exists, referrable to this subspecies. Belding (1890:210) also collected a male in breeding plumage at Stockton, 20 March 1886, but the whereabouts of this specimen is unknown. It was with another Myrtle Warbler, probably a female. While I am reluctant to accept any sight record of this species in winter plumage, there are occasional sightings by qualified observers which are quite convincing. I feel that the species presently occurs here in very small numbers at least during some winters.

Specimens.--MVZ 22928, Tracy Lake, 29 March 1912.

AUDUBON'S WARBLER-Dendroica auduboni auduboni (Townsend)

Status.--Very common winter.

Earliest Fall Date.--18 September 1878 (Belding, 1879:405).

Latest Spring Date.--9 May 1964.

Most are gone in March, and those than remain or pass through are often in breeding plumage.

Habitat and Distribution.--Found almost anywhere that there is green vegetation. It is frequently seen flycatching over grassy roadsides, foraging in the branches of trees and shrubs anywhere from ground level to forty feet high or more. It is common to find individuals with white throats, which upon very close inspection show a tinge of yellow or otherwise prove not to be Myrtle Warblers. Each winter many Audubon's Warblers are found dead upon open lawns. This type of mortality was mentioned by Tyler (1913:100) in Fresno County. It appears to be a natural mortality resulting from environmental

forces encountered on the wintering grounds, as opposed to mass accidental poisoning, or other catastrophic occurrences.

Specimens.--SJDC 121 ♂, Lodi, 24 January 1949; JRA 883 ♂, Stockton, 23 February 1960; JRA 887 ♀, Stockton, 1 February 1961; USNM 74441 ♂, Stockton, 25 April 1878; UOP 141 ♂, Stockton (UOP), 2 May 1963; UOP 142 ♀, Farmington (1 mi. W), 9 November 1963; UOP 143, Lodi (Adams farm, 8 mi. NE), 22 November 1962; UOP 144 ♀, Empire Tract, 10 March 1963; UOP 145 ♀, Stockton, 9 November 1962; UOP 233, Stockton, February 1964.

BLACK-THROATED GRAY WARBLER-Dendroica nigrescens (Townsend)

Status.--Uncommon migrant. Rare winter.

Earliest Fall Date.--4 September 1963.

Latest Spring Date.--9 May 1963.

Most often encountered during March, April, May and September. Only one winter record: 24 January 1957, see specimens.

Habitat and Distribution.--Prefers valley oaks, and chaparral, cork or valley oaks in towns. Sometimes found in dense willow growth during migration. Many records from Corral Hollow, Stockton (University of the Pacific, Lewis Park, several backyards), Bellota, Caswell State Park, Empire Tract and Lodi.

Specimens.--JRA 854, Stockton, 24 January 1957; USNM 76551 ♀, Stockton, 1 May 1878; UOP 146 ♂, Stockton, spring 1963.

TOWNSEND'S WARBLER-Dendroica townsendi (Townsend)

Status.--Uncommon migrant. Rare winter.

Earliest Spring Date.--14 April 1879 (Belding, 1890:214).

Latest Spring Date.--3 June 1878 (Belding, 1879:406).

There are no fall records. The February specimen, an unusual winter record, was a bird found dead by one of Jack Arnold's students.

Habitat and Distribution.--Found in large evergreen trees, either conifers or live oaks in full foliage. The larger deciduous trees are sometimes visited during migration. Records come only from Stockton and just north of Stockton, although it is certainly more widely distributed.

Specimens.--SJDC 87 ♂, Stockton (COP campus), 10 February 1949; USNM 74251 ♂, 74437 ♂, Stockton, 29 April 1878; USNM 74438 ♀, Stockton, 17 May 1878.

HERMIT WARBLER-Dendroica occidentalis (Townsend)

Status.--Rare migrant.

Three specimens only: USNM 74439 ♂, Stockton, 9 May 1878; USNM 74440 ♀, Stockton, 18 May 1878; and CAS 54599 ♂, Waterloo, 10 May 1882. The birds collected by Belding (1879:406) in 1878 were feeding in the willows along the San Joaquin River.

MacGILLIVRAY'S WARBLER-Oporornis tolmiei (Townsend)

Status.--Rare.

Four sight records only: 19 April 1947, Corral Hollow (VRJ, AE); 30 April 1947, Stockton-Calaveras River (VRJ, AE); 6 May 1960, Stockton-2022 W. Willow (VC); 18 May 1964, University of the Pacific (GWC). More field work in the inner coast range should produce more records.

YELLOWTHROAT-Geothlypis trichas occidentalis Brewster

Status.--Common summer. Uncommon winter.

Habitat and Distribution.--Low willow growth, blackberry jungles, and tangles of vegetation over water. Forages, sings and nests from ground level to about 20 feet from the ground. Commonly seen on the Delta about ponds and sloughs, in similar situations across the valley floor and into the hills on both east and west. Records for all months.

Nesting.--Only one nesting record: 1 June 1924, White Ranch, northwest of Stockton, eggs. The bird certainly nests here much more commonly than this would indicate. Many summer sight records.

Specimens.--WBS Eggs, Stockton (9 mi. NW), 1 June 1924; MVZ 41100-41102 ♂♂ imm., Stockton, 4 September 1920; MVZ 41103 ♂ imm., Stockton, 5 September 1920; USNM 74263 ♂, Stockton, 13 April 1878; USNM 76552 ♂, Stockton, 3 December 1878.

YELLOW-BREASTED CHAT-Icteria virens auricollis (Deppe)

Status.--Fairly common summer.

Earliest Spring Date.--25 April 1963.

Latest Fall Date.--30 August 1940.

Habitat and Distribution.--Prefers tall growth, as in young willow, bamboo patches, and second growth riparian woodlands. More often heard than seen. Forages in low willows, even scattered clumps, but retreats to dense growth upon being disturbed. Records from all about the county in the proper habitat.

Nesting.--Begins nesting soon after arrival. Sings and scolds constantly throughout the summer. Few nest records: 25 May 1947, north of Stockton, bird with nesting material (JRA); 5 June 1948, Mokelumne River, adults and two newly fledged young (JRA).

Specimens.--USNM 74434 ♂, Stockton, 9 May 1878; USNM 74435 ♂, Stockton, 13 May 1878.

WILSON'S WARBLER-Wilsonia pusilla chryseola Ridgway

Status.--Common migrant. Rare winter.

Earliest Fall Date.--8 August 1962.

Latest Spring Date.--27 May 1878 (Belding, 1879:407).

One winter record, not assignable to subspecies, on 2 January 1948, San Joaquin City (JRA, JG).

Habitat and Distribution.--Found occasionally feeding in sycamores, oaks or other taller trees, but more commonly near the ground in bushes, low brush and willows. Records come from all parts of the county during migration.

Specimens.--SJDC ♂, Stockton, 15 April 1950; USNM 74436 ♀, Stockton, 9 May 1878; UOP 150 ♂, Bishop Tract, 4 May 1963.

Family Ploceidae

HOUSE SPARROW-Passer domesticus domesticus Linnaeus

Status.--Common permanent.

First seen about San Francisco in 1871 or 1872 (Grinnell and Miller, 1944:573). It was brought to Stockton from San Francisco in the fall of 1883 and released. From there it spread rapidly about the countryside (Belding, 1890:168). By 1911 it had become very well established about human habitation in San Joaquin County (WT).

Habitat and Distribution.--Frequents human habitation, being found throughout the county. Sometimes seen foraging in fence rows or waste areas away from buildings.

Nesting.--Courtship and nest building begin in mid-March, with nesting continuing until late June The nest is a messy accumulation of plant material, strings and odds and ends, filling a crevice or cranny often in or on a building. Was regularly found nesting among the sticks in the nests of herons and egrets at the Baldwin-Lang Ranch (JRA, JG).

Specimens.--WBS Eggs, Stockton (9 mi. NW), 18 May 1924; WBS Eggs, Stockton (9 mi. NW), 25 May 1924; WBS Eggs, Stockton (7 mi. NW), 26 April 1924; WBS Eggs, Stockton (6 mi. NW), 22 April 1923; WBS Eggs, Stockton, 2 June 1921 (two sets); WBS Eggs, Stockton, 14 May 1894; WBS Eggs, Stockton (8 mi. NW), 8 May 1921; SJDC 101 ♂, Stockton, 8 October 1940; JRA 529 ♂, Stockton, 11 December 1939; JRA 789 ♂, Stockton, 24 March 1949; UOP 137, Bishop Tract, 3 October 1963; UOP 138 ♂, Empire Tract (Delta), 8 November 1963; UOP 139 ♀, Escalon, 8 August 1948; UOP 234 ♂, Farmington, 15 December 1963.

Family Icteridae

WESTERN MEADOWLARK-Sturnella neglecta Audubon

Status.--Very common permanent.

Habitat and Distribution.--Widely distributed throughout the countryside. Prefers larger tracts of low grass or other ground vegetation. Often seen singing from a low prominence, fence or telephone line. The winter population is often quite large, with birds moving and feeding together in flocks. Such flocks, sometimes numbering hundreds of birds, have been much maligned by late grain growers, who claim much damage is done to their crops.

Nesting.--The song is heard all year, but more often after March first. Some representative nest records are: 6 April 1947, nest on ground amid clover, three eggs; 13 April 1948, nesting; 8 May 1942, Stockton, carrying food; 22 May 1948, nesting; 6 June 1937, two eggs, two young; 16 June 1933, nest with three day-old young.

Specimens.--SJDC 183 ♀ , Stockton, 22 November 1950 (died 14 November); WBS Eggs, Stockton (6 mi. S), 8 April 1928; WBS Eggs, Stockton (9 mi. NW), 18 May 1924; WBS Eggs, Thornton (1 mi. S), 4 June 1922; WBS Eggs (3), Stockton, 12 April 1896; JGT Eggs (5), Stockton (9 mi. NW), 17 April 1920; MVZ 19573, Tracy, 13 March 1911; MVZ 76269 ♀ , Vernalis (5 mi. N), 13 February 1939; JRA 801 , Stockton, 6 March 1950; JRA 861 ♂ , King Island Resort, 10 December 1957; UOP 188 ♂ , Stockton, 17 November 1962; UOP 189 ♀ , Venice Island, 7 November 1962; UOP 190 ♂ , Stockton (Empire Tract), 4 September 1963.

Family Icteridae

YELLOW-HEADED BLACKBIRD-Xanthocephalus xanthocephalus (Bonaparte)

Status.--Fairly common summer. Uncommon winter.

Habitat and Distribution.--In winter more males are seen than females, usually in a mixed flock with Brewer's, Redwinged or Tricolored Blackbirds. Feeds extensively on irrigated pasture and cropland. In summer more restricted to marshes with cattails or tules growing in fairly deep water. Before the tule lands were reclaimed, it was an "abundant summer resident" (Belding, 1890:119).

Nesting.--Very local in its summer distribution. The birds are first seen at the nesting area in

mid-April. By the end of April the first nests are built. Young begin to leave the nest by late May. Some typical nest records are: 25 April 1947, Arno, large flocks, few nests, no eggs yet; 7 May 1950, Arno and Forest Lake, nests and eggs, many just starting; 11 May 1947, Arno, most with four eggs, some with one, two or three yet; 6 June 1947, Arno, no eggs, most young ready to leave.

Specimens.--SJDC 138 ♂, Stockton (8 mi. N), 10 October 1940; WBS Eggs, 14 sets from Arno Marshes and Stockton (9 mi. N), 7 May 1950 to 7 June 1933 (1924-1950); MVZ 68814 ♂, Walnut Grove (6 mi. E), 23 December 1921; JRA 810, 811 (Eggs), Arno, 7 May 1950; MVZ Eggs 6846 (6), Lathrop, 10 May 1894; USNM 74276 ♂, Stockton, 17 April 1878.

REDWINGED BLACKBIRD-Agelaius phoeniceus californicus Nelson

Status.--Very common permanent.

Habitat and Distribution.--In summer restricted to marshes, ditches, rivers and roadsides where at least a small amount of standing water produces cattails, tules, willows or other dense vegetation for a nest site. After the breeding season large flocks are formed, sometimes numbering thousands of birds. Mixed flocks of Brewer's, Redwinged and sometimes Tricolored Blackbirds are encountered. The wintering birds are mostly males, which remain separate from females and immatures.

Nesting.--Resident males begin to sing and display while migrants continue to pass through. Singing is more evident from mid-March, with

resident females present about nesting areas very soon thereafter. Some typical nesting records are: 2 April 1948, Kettleman, one week ago few females present, now common; 13 April 1948, Kettleman, choosing nest sites; 23 April 1933, nest with one fresh egg; 9 April 1933, two fresh eggs; 30 April 1939, four fresh eggs; 17 May 1947, Arno, all stages of nesting; 11 May 1947, Arno, large young out of nests; 5 June 1947, Kettleman, some nests with eggs, hundreds of birds in flocks; 11 July 1948, Kettleman, now moving about in flocks. The earliest nest record I have is 17 March 1934, Arno, three eggs.

Specimens.--MVZ 19716, 19717 and 19522-19547, Tracy, 10 March 1911; MVZ 19520, Tracy, 8 March 1911; MVZ 19521, Tracy, 9 March 1911; CAS 49447-49457 ♂♂, Stockton (2 1/2 mi. W), 18 April 1916; CAS 49580-49583 ♀♀, Stockton (2 1/2 mi. W), 18 April 1916; MVZ 19739-19744 and 19746-19748, Lathrop, 3 October 1911; MVZ 22762-22764, Tracy Lake, 30 March 1912; MVZ 41047-41049 ♂♂, Stockton, 5 September 1920; MVZ 43122-43144, Walnut Grove (6 mi. E), 23 September 1921; MVZ Eggs 1429-1431, French Camp Slough, 10 May 1910; MVZ Eggs 5053 (4), Manteca (2 mi. S), 2 June 1931; WBS Eggs, 11 sets from Stockton and vicinity, 10 May 1924 to 27 May 1935 (1924-1935); SJDC 145, 146, southeast of Lodi, 15 May 1949; SJDC 153 ♂, Stockton, 13 April 1950; SJDC 155 ♂, COP (2 mi. W), 10 May 1950; SJDC 162 ♀, Stockton, 12 May 1950; SJDC 92, 122, Stockton (7 mi. NW), 10 October 1946; SJDC 154 ♂, 157 ♂, Stockton (5 mi. N), 5 May 1950; SJDC 60 ♂, Stockton, 10/1/1940; JRA 557 ♂, Stockton, 20 December 1940; JRA 742, 743 (Eggs), Stockton

(8 mi. N), 6 June 1947; USNM 76594 ♂, Stockton, 4 April 1878; USNM 74277 ♀, Stockton, 29 March 1878; USNM 76592 ♂, Stockton, 4 April 1878; UOP 191 ♂, Stockton, 5/11/55; UOP 193 ♂, 194 ♂, Lodi (Adams farm, 8 mi. NE), 22 September 1962; UOP 195 ♂, 196 ♂, Venice Island (w end), 3 October 1963; UOP 184 ♀, Terminous, 9 March 1963; UOP 185 ♀, Empire Tract, 10 March 1963.

This list of specimens includes migrant birds that are definitely not of the above named subspecies.

TRICOLORED BLACKBIRD-Agelaius tricolor (Audubon)

Status.--Locally common permanent.

Habitat and Distribution.--The marked gregariousness of this species in part accounts for its frequency of encounter. Throughout the year tall reeds, tules, or other wet vegetation often provide roosting areas. From there groups of birds forage out to feed on bare fields, grain or alfalfa. When the species is encountered, several to many birds are found together. It was previously abundant in the tules near Stockton in the summer, but was then as now not common in winter (Belding, 1890:123).

Nesting.--Colonies have been recorded at Stockton (Belding, 1890:123) and Arno Marshes. Before reclaimation of the Delta, it surely bred more widely and in larger numbers. Typical records from Arno are: 25 April 1947, flock in area, no nests yet; 7 May 1950, still flocking, no nests; 11 May 1947, a few nests, few eggs; 26 May 1957, young in most nests.

Specimens.--MVZ 19745, Lathrop, 3 October 1911; MVZ 41050 ♂, Stockton, 4 September 1920; MVZ 41051-41054,

Stockton, 5 September 1920; MVZ 43146, 43147 ♀♀, Walnut Grove (6 mi. E), 23 December 1921 (not San Joaquin County); JRA 531 ♂, Stockton, 11 December 1939; JRA 558 ♂, Stockton, 20 December 1940; USNM 73987 ♂, Stockton, spring 1875; UOP 187 ♂, Stockton, 10 August 1948.

HOODED ORIOLE-Icterus cucullatus californicus (Lesson)

Status.--Fairly common summer in preferred habitat.

Earliest Spring Date.--5 April 1940.

Latest Fall Date.--4 June 1963.

Habitat and Distribution.--Almost exclusively found near fan palms about human habitation and along roadways. Probably has spread into this area in the last twenty years due to increased planting of palms. Visits large deciduous trees and flower beds freely for foraging.

Nesting.--Certainly nests in above habitat. Many records of male and female birds throughout the summer. No nests found, probably due to their inaccessability. In 1957 young birds were seen feeding on a bottlebrush plant in Stockton (VRJ, AE).

BULLOCK'S ORIOLE-Icterus bullockii (Swainson)

Status.--Common summer.

Earliest Spring Date.--13 March 1964.

Latest Fall Date.--20 July 1940 (later dates expected). Males preceed the females by one week or more in arrival dates.

Habitat and Distribution.--Found throughout the county near open oak groves or other scattered trees in towns and country. Oaks, sycamore, willow and other deciduous trees are acceptable. Forages on or near the ground in addition to in the tree tops.

Nesting.--Many records from all parts of the county. Some typical ones are: 18 April 1942, only males to date; 27 April --, Woodbridge, females present; 3 May 1947, 29 May 1948, copulation observed; 8 May 1942, nests; 7 May 1922, eggs one-half advanced. Nest is pendant from a large deciduous tree.

Specimens.--SJDC 115 ♂, Stockton, 4 April 1941; JRA 808, Stockton, 1 May 1950; WBS Eggs, Stockton (7 mi. NW), 7 May 1922; WBS Eggs, Stockton (8 mi. NW), 28 May 1922; WBS Eggs, Bellota (3 1/2 mi. NE), 30 May 1925; CAS 50175 ♂, Waterloo, 11 May 1882; CAS 50211 ♀, Waterloo, 5 May 1882; USNM 74453 ♂, Stockton, 1 April 1878; UOP 235 ♀, Stockton (2 mi. E), 8/10/48.

BREWER'S BLACKBIRD-Euphagus cyanocephalus (Wagler)

Status.--Very common permanent.

Habitat and Distribution.--In winter widely dispersed over open fields, pastures and about towns. In summer more restricted to relatively moist situations near potential nesting sites. Found commonly about cities and towns.

Nesting.--Nest is placed in a mass of dense foliage, typically a conifer, in the midst of ivy on buildings, in the outer branches of oaks, or in tall dense ornamental grasses. Many nesting records for the region, some of these are: 25 April, new nests, one with egg; 7 May 1922, many nests with fresh and slightly incubated eggs; 11 May, Arno, several nests, eggs and young; 30 April 1947, feeding young. Eggs usually five.

Specimens.--MVZ 19718, Tracy, 10 March 1911; MVZ 41848, Tracy, 21 March 1921; MVZ 41849 ♂, Tracy,

28 March 1921; MVZ 88649, 88650, Tracy (4 mi. NW), 8 September 1938; MVZ Eggs 1442 (3), Peters, 18 May 1911; JRA 556 ♂, Stockton, 20 December 1940; JRA 753 ♂, Stockton, 12 April 1948; SJDC 160 ♂, Woodbridge (1 mi. S), 5 May 1950; SJDC 158 ♀, Woodbridge (1 mi. S), 9 May 1950; SJDC 80 ♀, Stockton (5 mi. N), 5 August 1947; WBS Eggs, 21 sets from Stockton and vicinity, 1 May 1921 to 14 May 1922 (1894-1939); MVZ 19576, Tracy, 10 March 1911; USNM 76595 ♂, 76596 ♀, Stockton, 30 September 1878; UOP 236, Stockton (7 mi. N), 3 October 1963; UOP 237 ♂, Stockton (UOP), 13 December 1963; UOP 178 ♂, Stockton (8 mi. N), 7 August 1948; UOP 179 ♀, Stockton (7 mi. W), 11 October 1962; UOP 180 ♀, Stockton (7 mi. NW), 4 October 1962; UOP 181 ♂, Stockton, 23 August 1948; UOP 183 ♂, Stockton, 20 August 1948.

BROWN-HEADED COWBIRD-Molothrus ater (Boddaert)

Status.--Fairly common summer. Uncommon winter.

Habitat and Distribution.--Forages on the ground, preferring lawns, close clipped pastures and stream banks, when grassed. Retreats to large bushes and trees when disturbed. Most often found in riparian woodlands and about towns.

Nesting.--Builds no nest, but deposits eggs in the nests of other birds. A few of the foster parents recorded in this area are: Redwinged Blackbird, Blue-gray Gnatcatcher (Calaveras County), Lawrence's Goldfinch, American Goldfinch (commonly).

Specimens.--SJDC 90 ♂, Stockton (7 mi. N), 10 December 1938; SJDC 163 ♀, COP (1 mi. W), 5 May 1950; JRA 518 ♀, 519 ♂, north of Stockton, 5 December 1938; WBS Eggs, Stockton, 22 May 1939;

UOP 240 ♀, Stockton (7 mi. NW), 27 October 1963.

Family Thraupidae

WESTERN TANAGER-Piranga ludoviciana (Wilson)

Status.--Common migrant. Rare winter.

Habitat and Distribution.--During migration found in brush and trees in backyards, orchards, riparian woodlands and denser oak groves. One winter record: 12 December 1962 to 3 February 1963, recorded by Johnston and Ellis at their backyard feeder (Johnston:MS). Ellis had recorded the pair once, and the female alone twice during the ten days prior to the period reported in the manuscript, (VRJ).

Specimens.--JRA 729 ♂, Stockton, 13 May 1942.

Family Fringillidae

BLACK-HEADED GROSBEAK-Pheucticus melanocephalus maculatus Audubon

Status.--Common summer.

Earliest Spring Date.--19 April 1885 (Belding, 1890:176).

Latest Fall Date.--25 August 1963.

Habitat and Distribution.--Prefers brush and small trees, orchards, oak groves, and riparian woodlands. Large trees and bushes provide foraging area, singing perches, and nest sites.

Nesting.--Nest is a weak platform of fine sticks on a horizontal crotch or flat part of a branch. Many nest records, some of which follow: 17 May 1947, east of Stockton, nest in a peach tree, two eggs; 12 May 1964, University of the Pacific, nest in oleander, four eggs; 25 May 1947, willow sapling, nest five feet high, four young; 24 May 1937, north of Stockton, nest with four young; also nest with two

eggs ready to hatch. Eggs usually four.

Specimens.--WBS Eggs, Stockton (3 mi. SW), 22 May 1921; WBS Eggs, Stockton, 2 June 1894; JRA 809 ♂, Stockton, 5 May 1950; CAS 52750 ♂, Stockton, 14 May 1882.

BLUE GROSBEAK-Guiraca caerulea salicaria Grinnell

Status.--Fairly common summer.

Earliest Spring Date.--25 April 1947.

Latest Fall Date.--7 August 1948.

Habitat and Distribution.--Low willow, raspberry tangle, dense brush or weeds near water. Common in such habitats on the Delta, at Caswell State Park, and along the east-west rivers. Found throughout the county, except no records from the inner coast range.

Nesting.--Little data, probably because of the difficulty involved in finding nests. Belding (1879:419) found a nest 14 or 15 feet from the ground in willows near the San Joaquin River.

Specimens.--CAS 52832 ♂, Stockton, 3 May 1882; USNM 74450 ♂, Stockton, 9 May 1878.

LAZULI BUNTING-Passerina amoena (Say)

Status.--Fairly common summer. Accidental winter.

Earliest Spring Date.--19 April 1885 (Belding, 1890:179).

Habitat and Distribution.--Edge situations are favored; found in willows, tall weeds, raspberry and low weedy growth. During migration sometimes found foraging in taller trees and shrubs. Shows a preference for moist situations. One winter record: an adult male flew up off the ground to a limb of a sycamore at the University of the Pacific campus, 24 February 1964 (JLT). As the bird flew up, his

tan breast reminded me of a small Western Bluebird, but his size and the white wing bar were apparent when he stopped. The bird was only a few feet from me, affording an excellent view even without binoculars. This is the first recorded winter occurrence in California. It would have been highly desirable to have validated this record with a specimen or subsequent sightings, but neither of these are available. This sighting is included at face value only because of the certainty of the identification.

Nesting.--Nests are made of strands of plant material wound into a tight cup which is placed close to the ground in dense vegetation. Eggs are usually three or four. Typical nesting data include: 22 April 1950, mouth of Calaveras River, singing males; 30 May 1954, nest in high nettles, no eggs; 28 June 1947, Calaveras River, nest with three eggs; 16 July 1937, Calaveras River, nest with three eggs ready to hatch.

Specimens.--CAS 22627 ♂, 22628 ♂, Waterloo, 5 May 1882; USNM 76591 ♂, Stockton, 3 June 1878.

EVENING GROSBEAK-Hesperiphona vespertina brooksi Grinnell

Status.--Rare winter. Variable in numbers. Some winters it would be considered to be common. Seen here at least in small numbers most winters.

Habitat and Distribution.--Most commonly found on lawns or in trees about towns. Feeds freely on juniper and pyracantha berries, sometimes participating in feeding sprees with waxwings and Robins. The winters of 1900-1901, 1949-1950 and 1951-1952 were notable for the numbers of Evening

Grosbeaks seen in this county.(Sampson, 1901a:37; Arnold, 1950:166).

Specimens.--SJDC 144 ♀, Stockton, 24 March 1949; JRA 780, 781, Lodi, 15 February 1949.

PURPLE FINCH-Carpodacus purpureus (Gmelin)

Status.--Rare winter.

Habitat and Distribution.--Its habitat is seemingly the same as that of the House Finch, except it shows some preference for conifers. There are few actual records. Belding (1879:413) reported it as rarely visiting the valleys, and collected one specimen 1 May 1878. A specimen was collected by Arnold, 15 February 1949 at Lodi. One was identified at a bird feeder in Stockton, 1 December 1957 (VRJ, AE).

Specimens.--USNM 74269 ♀, Stockton, 1 May 1878; JRA 779 ♂, Lodi, 15 February 1949.

HOUSE FINCH-Carpodacus mexicanus frontalis (Say)

Status.--Very common permanent.

Habitat and Distribution.--Wide range of tolerated habitats. Found nearly everywhere within the county. Xanthochromatic individuals occur with notable regularity.

Nesting.--The only requirement is a nook or cranny on some exposed face for placement of the nest. Has been found nesting just about everywhere, including the shade of a stop-and-go light. The nest is a large but not bulky cup, fitted to the nesting site. Five eggs are the normal clutch. Many records, some representative ones are: 3 February 1947, Kettleman, singing has been increasing; 18 April 1941, nest; 22-29 April 1950, nests with eggs; 11 April 1947, Linden Road, nest and eggs,

30 April 1947, large young eating 45 cent per pound cherries; 26 July 1933, two eggs ready to hatch, one young.

Specimens.--USNM 74448 ♂, Stockton, 8 June 1878; SJDC 27 ♂, 28 ♂, Simms (3 mi. SW), 27 October 1948; WBS Eggs, Stockton (10 mi. NW), 5 May 1940; MVZ 84729 ♂, Tracy, 4 June 1942; CAS 23247 ♀, Waterloo, 3 May 1882 (exchanged with E. E. Murphy); CAS 61352 ♂, Tracy (2 1/2 mi. W), 31 August 1951; UOP 261 ♂, Farmington (1 mi. W), 9 November 1963; UOP 262 ♂, Stockton (UOP), 1963; UOP 263 ♂, Stockton (UOP), 12 December 1962; UOP 197 ♀, Farmington (1 mi. W), 9 November 1963; UOP 199 ♂, 200 ♂, Stockton (5 mi. NE), 4 September 1962.

PINE SISKIN-Spinus pinus pinus (Wilson)

Status.--Rare winter.

Seen in flocks, seldom singly. During most winters one or two reports will come in. They have been seen feeding on alder, maple, and juniper buds on the University of the Pacific campus (JRA). On 10 January 1964, a group was seen visiting a leaky sprinkler on campus, drinking and bathing in the pool of water (GWC, JLT). Records also come from Lodi, eight miles northeast of Stockton, and Tracy. They might be expected nearly anywhere in the county. One late record for a flock of about a dozen, 1 May 1951 (VRJ).

Specimens.--MVZ 19601, Tracy, 17 March 1911; JRA 784 ♀, Lodi, 6 March 1949.

AMERICAN GOLDFINCH-Spinus tristis salicamans Grinnell

Status.--Common permanent.

Habitat and Distribution.--In summer somewhat restricted to low growth of willow and alder for nesting and forages in thistles and weeds of adjacent fields and edges. In winter more dispersed, being found feeding on seed balls of sycamores, in patches of nettles or searching on the ground as well as in thistles. Records come from most of the county except the more arid portions of the inner coast range.

Nesting.--Nest is a small cup lined with thistle down, perched in the midst of a growth of low willows or similar vegetation. Eggs normally three or four. Heavily parasitized by the Brown-headed Cowbird. Some typical breeding data are: 4-9 April, north of Stockton, several flocks noticed, no pairing evident; 20 April 1940, near College of the Pacific, nest; 30 April 1933, north of Stockton, four fresh eggs, one cowbird egg; 24 May 1937, three nests, one with three eggs ready to hatch, another had two goldfinch eggs and one cowbird egg, the third had one goldfinch egg ready to hatch and one young cowbird. A complete record on one nest observed during 1946 in willows along the Calaveras near College of the Pacific is as follows: 3 April, nest started in vertical fork of wild rose shrub, five feet from ground; 11 April, nest complete; 12 April, egg number one, laid between 10:30 and 11:25 A. M.; 14 April, egg two, laid between dawn and 9:55 A. M.; 15 April, egg three present at 8:45 A. M.; 16 April and 17 April, one egg each day; 28 April, three eggs hatched; 29 April, fourth egg hatched, fifth was addled; 7 May food calls from young; 10 May, female disappeared; 12 May, first young left;

13 May, two young left (fourth had disappeared previously).

Specimens.--WBS Eggs, Stockton (10 mi. NW), 5 May 1940 (2 sets); MVZ 19580-19595, 19719, 19720, Tracy, 10 March 1911; JRA 733, Stockton (COP), 12 November 1946; UOP 207 ♂, 208 ♂, Lodi (Adams farm, 8 mi. NE), 22 November 1962; UOP 209 ♂, Empire Tract, 10 March 1963.

LESSER GOLDFINCH-Spinus psaltria hesperophilus (Oberholser)

Status.--Common permanent.

Habitat and Distribution.--Prefers brush and weedy edges instead of moist willow habitat. Tolerant of dryer situations than the American Goldfinch. Records for all parts of the county.

Nesting.--Few records are available, perhaps because of confusion of its nest with that of the American Goldfinch. The nest is a loosely turned cup placed at low to moderate height in rank vegetation, shrubs or trees. Eggs are four to five. Reported data are: 18 April 1941, northwest Stockton, nest in low shrub; 14 April 1948, north of Stockton, nest with eggs; 10 April 1948, Corral Hollow, male chasing female; 19 April 1954, Stockton College campus, nest in toyon bush, female sitting and wouldn't flush at two feet, still incubating three days later.

Specimens.--MVZ 19598, Tracy, 17 March 1911.

LAWRENCE'S GOLDFINCH-Spinus lawrencei (Cassin)

Status.--Common summer. Rare winter.

Earliest Spring Date.--21 March 1953.

Latest Fall Date.--13 August 1947.

Habitat and Distribution.--Tolerates still drier habitats than the above. Often found about towns, where it nests

in deodar cedar, coast and sierra redwoods, incense cedar, cork oak, valley oak or large shrubs. Also found near groves of valley oaks or occasional trees in chaparral areas. Widely distributed across the county.

Nesting.--Nest is of dry grasses and strips of vegetation lined with feathers or other available soft lining material. Eggs, four or five. Some nesting records are: 11 April 1948, Lodi Lake, pairs; 18 April 1942, College of the Pacific, starting to nest; 20 April 1940, College of the Pacific, nest with four eggs; 8 May 1942, College of the Pacific, nest with eggs and one cowbirds egg; 11 May 1946, five young in nest; 5 July 1947, College of the Pacific, nest with one egg.

Specimens.--JRA 803 ♂, Lodi, 28 March 1950; WBS Eggs, Stockton (3 mi. N), 14 May 1894.

RED CROSSBILL-Loxia curvirostra Linnaeus

Status.--Rare winter.

Several "word of mouth" records of sightings, but only one good identification. A single male was seen at a backyard feeder in Stockton, 11 April 1964 (VC). Additionally, Dr. Edwards reported a group of birds in conifers at the West Lane Tennis Courts a week earlier that he felt certain were crossbills (probably this species) but he was unable to confirm his identification. I would expect more winter records than I have found.

GREEN-TAILED TOWHEE-Chlorura chlorura (Audubon)

Status.--Rare migrant.

One record: a bird was observed feeding on the lawn at the University of the Pacific on 7 May 1964

(VRJ, JLT, DJT, EPE). The species has been recorded rarely on migration from areas all about the Central Valley, but this is the first record for San Joaquin County (Grinnell and Miller, 1944:468).

RUFOUS-SIDED TOWHEE-Pipilo erythrophthalmus falcinellus Swarth

Status.--Common permanent.

Habitat and Distribution.--Low tangles of berry bushes, willows and weeds are preferred. The mewing "catcall" of this species coming from a dense clump of vegetation often indicates its presence. Frequently seen on the ground or in low brush, but always within reach of a safe retreat in dense undergrowth. Recorded from all parts of the county.

Nesting.--The nest is a cup of vegetation on the ground or less frequently low in dense cover. Nesting data come from all parts of the county. Singing is heard all year. Nesting begins in early April, with nests being recorded into mid-June. One partial albino was captured in a mist net on Broodside Road.

Specimens.--MVZ 19660, Tracy, 11 March 1911; MVZ 22828, Tracy Lake, 29 March 1912; UOP 255 ♀, Stockton, 12 November 1963 (partial albino); UOP 256 ♀, Stockton (2 mi. NW), 4 January 1964; UOP 205 ♂, Venice Island, 3 October 1963; UOP 206 ♀, Empire Tract, 27 February 1963.

BROWN TOWHEE-Pipilo fuscus carolae McGregor

Status.--Fairly common permanent.

Habitat and Distribution.--Records from most of the county including Corral Hollow and San Joaquin City which fill in the gap in the range recorded by Grinnell and Miller (1944:476) at least in part.

I expect that more field work in the Hospital Canyon area will extend the range of the species to cover all of the county. Prefers broken chaparral and grass in the foothills and inner coast range or weedy tangles interspersed with grass in the valley. Found about towns in shrubbery and lawn situations. Spends much time on the ground, walking and running about freely.

Nesting.--Few records: 16 May 1937, San Joaquin-Calaveras County line, two nests, one egg, two eggs; 13 April 1946, Corral Hollow, new nest two feet from the ground, of grass and small sticks. The nest, a well shaped cup, is placed at a low to moderate height in a dense bush or tangle of vegetation. The subspecies breeding in the southwest corner of the county may not be P. fuscus carolae.

Specimens.--MVZ 22865, Tracy Lake, 29 March 1912; JRA 762 ♂, Lockeford, 7 August 1948; UOP 249, Corral Hollow, 29 November 1963.

SAVANNAH SPARROW-Passerculus sandwichensis (Gmelin)

Status.--Common winter.

Earliest Fall Date.--22 July 1947.

Latest Spring Date.--5 May 1940.

Habitat and Distribution.--Previously (Belding, 1879:415) the earliest and latest records for each year were for the extensive tule swamps, and it was generally distributed throughout the area during the winter. Records still come from all parts of the county, but most of them are for the pastures and fields of the Sierra foothills and inner coast range. The habitat is not highly restricted. Short or long grass, marsh, roadside, edge or open fields

are quite acceptable. Large flocks are sometimes encountered during migration.

Specimens.--USNM 74264 ♂, 74265 ♀, Stockton, 27 April 1878; USNM 76572, Stockton, 18 September 1878; USNM 76573, Stockton, 24 September 1878; SJDC 35 ♀, Stockton, 1/8/41; MVZ 19604, Tracy, 8 March 1911; MVZ 19605, Tracy, 13 March 1911; MVZ 41068 ♀, Stockton, 4 September 1920; MVZ 54611 ♀, 54612 ♀, Linden, 22 April 1930; MVZ 79393 ♂, Stockton (7 mi. N), 7 September 1940; MVZ 81529 ♀, Victoria Island, 31 December 1937; JRA 561, Stockton, 8 January 1941; UOP 215, Stockton, 2 April 1962.

VESPER SPARROW-Pooecetes gramineus (Gmelin)

Status.--Uncommon winter. Fairly common migrant.

Habitat and Distribution.--This small rather plain sparrow has been recorded relatively few times. It has been my experience that when all small sparrows are checked carefully on a winter day, Vesper Sparrows will be found among them. It is more easily found in September, April and May than in mid-winter. A few records have come in from all parts of the county. I have found it in the eastern part, usually near pastures or grain fields and along fence rows.

Specimens.--UOP 251 ♀, Farmington (3 mi. E), 13 April 1963.

LARK SPARROW-Chondestes grammacus strigatus Swainson

Status.--Common permanent.

Habitat and Distribution.--Records from all parts of the county. Prefers trees and shrubs broken by pasture or grain fields. Orchards, open oak woodlands, edges of oak groves and willow stands

are frequented. Very common in the oak-chaparral vegetation in the southwestern and eastern parts of the county.

Nesting.--Few records: 19 April 1947, Corral Hollow, nest but no eggs; 26 April 1933, Stockton (7 mi. N), nest with one egg. A set of four eggs reported collected 28 February 1910 seems somewhat unusual. The nest is a rough cup placed on the ground or in low shrubbery.

Specimens.--SJDC 177 ♂, Lodi, 15 March 1950; WBS Eggs, Hospital Canyon, 23 April 1939; WBS Eggs, Stockton (7 mi. NW), 7 May 1922; MVZ 19613, Tracy, 17 March 1911; MVZ 19733, Lathrop, 3 October 1911; MVZ Eggs 1466 (4), French Camp, 28 February 1910; UOP 252 ♂, Lodi (8 mi. NE), 22 September 1962.

SLATE-COLORED JUNCO-Junco hyemalis hyemalis (Linnaeus)

Status.--Rare or accidental winter.

A specimen was recorded in Grinnell and Miller (1944:503) as coming from Stockton (no date given) and belonging to this subspecies. I was unable to find the specimen, and can offer no further information.

OREGON JUNCO-Junco oreganus oreganus (Townsend)
Junco oreganus thurberi Anthony

Status.--Common winter.

Earliest Fall Date.--30 September 1962.

Latest Spring Date.--29 May 1963.

Habitat and Distribution.--Situations involving trees or shrubs interspersed with lawns or partially bare ground are favored. Found widely distributed throughout the county, but most often seen in cities.

Specimens.--USNM 73952 ♂, Stockton?, -November 1877?; JRA 858 ♀, Stockton, 7 October 1957; JRA 890 ♂,

Stockton, 29 October 1961; UOP 254, Farmington (1 mi. W), 9 November 1963; UOP 211 ♂, 213 ♂, Lodi (7 mi. NE), 22 November 1962.

CHIPPING SPARROW-Spizella passerina arizonae Coues

Status.--Uncommon, probably permanent.

Habitat and Distribution.--Records from many parts of the county, but grouped according to areas frequently visited by observers. Habitat variable, usually including edge, some trees or shrubs and short grass. During migration small flocks of this bird have been recorded (JRA). It has been observed in the county during every month except June.

Specimens.--SJDC 178, Lodi, 17 February 1949; MVZ 19622, Tracy, 17 March 1911; JRA 783, Lodi, 17 February 1949; USNM 74449 ♂, Stockton, 30 April 1878.

BREWER'S SPARROW-Spizella breweri breweri Cassin

One record: Belding (1879:417) recorded two birds in the spring of 1878. It is still a probable wintering or migrant species but no records are available.

WHITE-CROWNED SPARROW-Zonotrichia leucophrys gambelii (Nuttall)

Zonotrichia leucophrys nuttalli Ridgway

Status.--Very common winter.

Earliest Fall Date.--16 September 1947.

Latest Spring Date.--5 May 1940.

Habitat and Distribution.--Records from every part of the county. Occurs nearly everywhere that a little bit of cover and a bit of ground vegetation for foraging are available. Such things as willows along streams, brush heaps, grape cuttings, shrubs

and ornamentals provide cover.

Specimens.--MVZ 19619, Tracy, 11 March 1911 (Z. leucophrys nuttalli); MVZ 19734, Lathrop, 3 October 1911 (Z. leucophrys gambelii); JRA 882 ♂, Stockton, 12 February 1960; USNM 76585, Stockton, 13 April 1878; USNM 76586, 76587, Stockton, 26 April 1878; UOP 245 ♀, Bacon Island, 27 November 1963; UOP 246 ♂, King Island, 3 November 1963; UOP 247 ♀, Stockton, 29 November 1963; UOP 217 ♀, Stockton (7 mi. NW), 15 November 1962.

GOLDEN-CROWNED SPARROW-Zonotrichia atricapilla (Gmelin)

Status.--Very common winter. Less common than the White-crowned Sparrow.

Earliest Fall Date.--19 September 1947.

Latest Spring Date.--9 May 1942.

Habitat and Distribution.--Habitat like that of the White-crowned Sparrow. Recorded everywhere within the county. Belding (1879:416) referred to this bird as an abundant winter sojourner.

WHITE-THROATED SPARROW-Zonotrichia albicollis (Gmelin)

Status.--Rare winter.

One record, positively identified: 18 April 1950, Stockton (JRA).

FOX SPARROW-Passerella iliaca (Merrem)

Status.--Sometimes common winter. Numbers of this species vary greatly from year to year with it sometimes being absent.

Habitat and Distribution.--Most often found scratching through the litter which develops under shrubs and ornamentals about towns, amongst chaparral and willow thickets or near piles of brush and litter. Usually remains close to a safe retreat in dense cover.

Specimens.--SJDC 805 ♀ , Stockton, 17 April 1950; JRA 552 ♀, Stockton, 27 December 1940; USNM 74266 ♀ , Stockton, 8 April 1878.

All but one of the 18 races of the Fox Sparrow winter in California and the winter range of that one is unknown. Passerella iliaca meruloides (Vigors) makes up a part of the San Joaquin County population (Grinnell and Miller, 1944:530). Other races occur here, but have not been identified from specimens.

LINCOLN'S SPARROW-Melospiza lincolnii (Audubon)

Status.--Fairly common winter.

Habitat and Distribution.--Prefers the dense cover of willows, berry tangles, stingweed and brush piles, away from which it is seldom seen. As well as being secretive, it is sometimes passed over as a Song Sparrow because of their similar plumage. Thus fewer records exist than would be expected. It has been recorded for most of the county, with records lacking from the inner coast range.

Specimens.--SJDC 39 ♂ , Stockton (Calaveras River), 25 January 1949; MVZ 22822, Tracy Lake, 28 March 1912; JRA 787 ♀ , Lodi, 6 March 1949; UOP 243 ♂, Bacon Island, 27 November 1963.

SONG SPARROW-Melospiza melodia mailliardi Grinnell

Status.--Common permanent.

Habitat and Distribution.--Dense willow and raspberry tangles, brush and shrubs are its favorite habitats. More often heard than seen, usually remaining in the densest underbrush. Records come from throughout the county.

Nesting.--The nest is a small cup on the ground in rank grass or weeds, or in short dense brush. Some

nest records are: 25 March 1947, mouth of the Calaveras River, nest and one egg in pampas grass; 17 May 1938, Robert's Island, nest and eggs; 3 May 1933, Stockton (7 mi. N), three eggs slightly incubated; 25 April 1941, Lewis Park, feeding young.

Specimens.--SJDC 151 ♂, COP (5 mi. W), 26 January 1949; SJDC 175 ♀, 9 miles out of Stockton, 1950; WBS Eggs, Stockton (3 mi. W), 17 May 1938; WBS Eggs, Stockton (3 mi. W), 3 May 1938; WBS Eggs, Stockton (9 mi. NW), 10 May 1925; WBS Eggs, Stockton (9 mi. NW), 1 June 1924; WBS Eggs, Stockton (9 mi. NW), 24 May 1924; WBS Eggs, Stockton (9 mi. NW), 18 May 1924 (2 sets); WBS Eggs, Stockton (9 mi. NW), 6 May 1923; JGT Eggs (3), Stockton (9 mi. NW), 1 June 1924; MVZ 19736-19738, Lathrop, 3 October 1911; MVZ 22813, Tracy Lake, 29 March 1912; MVZ 41088-41092, Stockton, 5 September 1920; MVZ 41139, 41140, Stockton, 4 September 1920; MVZ 77106 ♂, Banta, 24 May 1896; JRA 553 ♀, Stockton, 27 December 1940; USNM 76579, Stockton, 22 March 1878; USNM 76580, Stockton, 17 November 1878; USNM 74271 ♂, Stockton, 27 April 1878; USNM 74274 ♂, Stockton, 20 April 1878; UOP 241, 242, Empire Tract, 2 October 1963.

There are other subspecies of the Song Sparrow which are here in the winter.

APPENDIX

LOCALITIES FREQUENTLY MENTIONED

The accompanying map is indexed for most localities mentioned in this paper. The following localities have been frequently referred to, but are not included in the map index. The locality citations following each definition refer to the enclosed map.

Arno Marshes.--An extensive marsh just northwest of Galt in Sacramento County. A5.

Baldwin-Lang Ranch.--West of Thornton Road, just south of the Atherton Road junction. E4.

COP.--College of the Pacific (now University of the Pacific). F5.

Forest Lake.--(= Tracy Lake) see map. B4,5.

Guggolz Ranch.--On the southeast corner of the junction of Thornton Road and Eight Mile Road. E4.

Hayes' Pond.--A willow bordered pond on the west side of Empire Tract, resulting from a disastrous washout in 1958. E2.

Hogan Dam.--A reservoir in Calaveras County, resulting from the damming of the Calaveras River.

Junior Museum.--Previously a county supported general museum on the west side of Stockton. Now greatly deteriorated. F4.

Kettleman Place.--(= Kettleman Ranch, Swamp). West of Thornton Road, just opposite the junction with Eight Mile Road. Previously an extensive wooded swamp. E4.

Lang Ranch.--see Baldwin-Lang Ranch.

Lewis Park.--A public park on the northwest side of Stockton. F4.

McDade (Ranch).--West of Thornton Road, just south of Atherton Road and the Lang Ranch. E4.

North Pond.--A willow bordered pond along Potato Slough on Venice Island. D2.

Northside Oxidation Pond.--A newly constructed sewage treatment pond along Fourteenmile Slough on Wright Tract. F4.

Oak Park.--A Stockton city park on Alpine Avenue, containing many old valley oaks. F5.

Paradise Point.--The southwest corner of Bishop Tract on the Delta. E3.

South Oxidation Pond.--A sewage treatment pond just west of the San Joaquin River where it crosses State Highway 4. G4.

Tracy Lake.--(= Forest Lake). B4,5.

Turning Basin.--Part of the Stockton Deep Water Channel just north of Harbor Street. G5.

UOP.--University of the Pacific. F5.

White Ranch.--Property on Rio Blanco Tract. D3,4.

Work Camp Pond.--A shallow willow bordered pond behind the farm labor camp on the southeast end of Venice Island. E2.

West Lane.--Usually referring to that part of West Lane between the Calaveras River and Eight Mile Road. E,F5.

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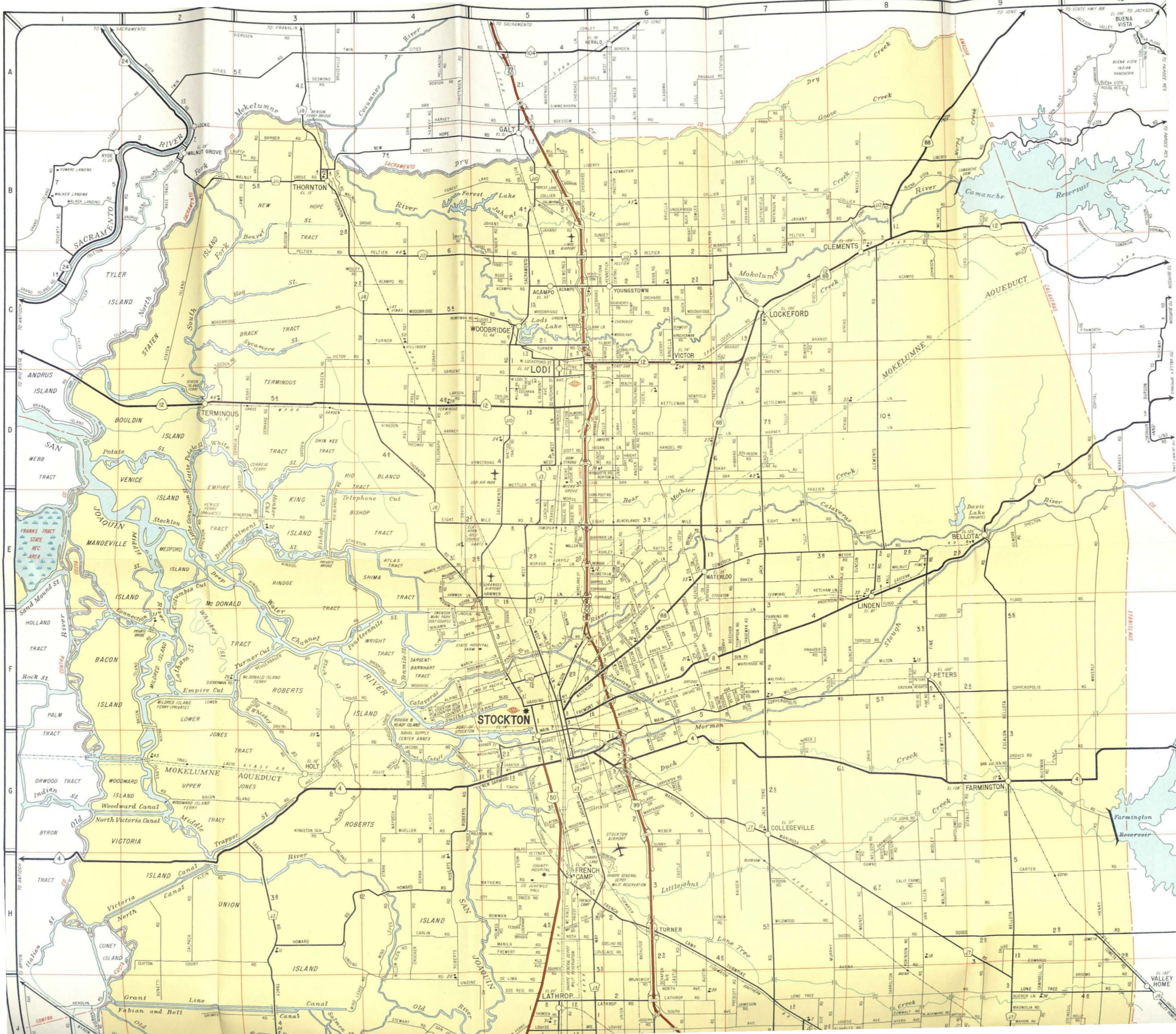
STOCKTON
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THORNTON
WOODBRIDGE
ACAMPO
YOUNGSTOWN
CLEMENTS
LOCKEFORD
VICTOR
TERMINOUS
FRENCH CAMP
LATHROP
TURNER
COLLEGEVILLE
FARMINGTON
PETERS
LINDEN
WATERLOO
BELLOTA
HOLT
WALNUT GROVE
RYDE
LOCKE
HERALD
BUENA VISTA
Mokelumne River
Sacramento River
San Joaquin River
Dry Creek
Goose Creek
Coyote Creek
Camanche Reservoir
Lodi Lake
Forest Lake
Jahant
Bear Creek
Mormon Slough
Duck Creek
Littlejohns Creek
Lone Tree Creek
Calaveras River
Stanislaus River
Farmington Reservoir
MOKELUMNE AQUEDUCT
Woodward Canal
North Victoria Canal
Victoria Canal
Old River
Grant Line Canal
Fabian and Bell Canal
Stockton Deep Water Channel
Stockton Diverting Canal
Empire Cut
Turner Cut
Columbia Cut
Disappointment Slough
Potato Slough
Little Potato Slough
Middle River
Whiskey Slough
Italian Slough
Trapper Slough
Beaver Slough
Hog Slough
Indian Slough
Rock Slough
Sand Mound Slough
Delta-Mendota Canal
Stockton Airport
Lodi Airport
Franks Tract State Rec. Area
Buena Vista Indian Rancheria
Buena Vista Indian Res.
Davis Lake (Private)
Howard Landing
Walker Landing
Venice Ferry (Private)
Mildred Island Ferry (Private)
Woodward Island Ferry
Benson Ferry Bridge
Correia Ferry
McDonald Island Ferry
Staten Island Ferry
Tyler Island
Staten Island
Andrus Island
Boulding Island
Venice Island
Joaquin Island
Mandeville Island
Medford Island
Rindge Tract
McDonald Island
Bacon Island
Roberts Island
Palm Tract
Orwood Tract
Byron Tract
Victoria Island
Union Island
Coney Island
Webb Tract
Franks Tract
Empire Tract
King Tract
Bishop Tract
Rio Blanco Tract
Atlas Tract
Shima Tract
Wright Tract
Fourteenmile Tract
Sargent-Barnhart Tract
New Hope Tract
Brack Tract
Terminous Tract
Shin Kee Tract
Garden Tract
Jones Tract
Lower Jones Tract
Upper Jones Tract
Woodward Tract
Lucas Tract
Las Vinas
Rough & Ready Island
Naval Supply Center Annex
Port of Stockton
Stockton Golf & Country Club
Swenson Muni Park Golf Course
Stockton State Hospital Farm
County Hospital
Co. Juvenile Hall
Sharpe General Depot
Wilt Reservation
Micke Grove
Lodi Air Park
Woodbridge Winery
Woodbridge Golf & Country Club
Lincoln Golf & Country Club
Acampo Rd
Woodbridge Rd
Turner Rd
Victor Rd
Terminous Rd
Harney Ln
Armstrong Rd
Mettler Rd
Eight Mile Rd
Hammer Ln
Morada Ln
Castle Ln
Ashley Ln
Kettleman Ln
Harney Ln
Brandt Rd
Sargent Rd
Jahant Rd
Peltier Rd
Liberty Rd
Collier Rd
Woodbridge Rd
Acampo Rd
Turner Rd
Victor Rd
Terminous Rd

SAN JOAQUIN COUNTY

LEGEND

- MULTI-LANE DIVIDED HIGHWAY
- PRIMARY HARD SURFACE HIGHWAY
- SECONDARY HARD SURFACE HIGHWAY
- CONNECTING HARD SURFACE ROADS
- GRAVEL OR EARTH ROADS (INQUIRE LOCALLY)
- SURFACE NOT INDICATED (INQUIRE LOCALLY)
- (50) U.S. HIGHWAY
- (33) STATE SIGN ROUTE
- (J4) COUNTY SIGN ROUTE
- C.S.A.A. OFFICE
- /10 SCHOOLS IN COUNTY
- CALIFORNIA HIGHWAY PATROL OFFICE
- 25 FIGURES INDICATE MILEAGES BETWEEN TOWNS AND JUNCTIONS

SCALE IN MILES

0 0.5 1 2 3 4